

**Site Inspection Report  
Dunn Edwards Corporation  
Vernon, Los Angeles County, California**

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## List of Acronyms

amsl	above mean sea level
AOC	analyte of concern
APN	Assessor's Parcel Number
AST	aboveground storage tank
bgs	below ground surface
CA MCL	California Maximum Contaminant Level
CA 2 <sup>nd</sup> MCL	California Secondary Maximum Contaminant Level
CA NL	California Notification Level
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLPAS	Contract Laboratory Program Analytical Services
CPT	Cone Penetration Testing
CS <sub>2</sub>	carbon disulfide
DCA	dichloroethane
DCE	dichloroethylene
DCM	methylene chloride
DP	direct push
DTSC	California Department of Toxic Substances Control
Dunn Edwards	Dunn Edwards Corporation
ECD	City of Vernon, Health and Environmental Control Division
EGBE	ethylene glycol monobutyl ether
ELA	East Los Angeles
EPA	United States Environmental Protection Agency
Fed MCL	Federal Maximum Contaminant Level
Fed 2 <sup>nd</sup> MCL	Federal Secondary Maximum Contaminant Level
ft	foot
ft <sup>2</sup>	square foot
GSWC	Golden State Water Company
HRS	Hazard Ranking System
MCL	Maximum Contaminant Level
MDL	method detection limit
MEK	methyl ethyl ketone
MIBK	methyl isobutyl ketone
MMWC3	Maywood Mutual Water Company #3
MTBE	methyl tert-butyl ether
MWC	Mutual Water Company
NE710	North East 710 Study Area
NPL	National Priorities List
PA	Preliminary Assessment
PCE	tetrachloroethylene
QC	Quality Control
RCRIS	Resource Conservation and Recovery Information System
ROD	Record of Decision
RSL	Regional Screening Level

## List of Acronyms (Continued)

RWQCB	California Regional Water Quality Control Board
SAP	Sampling and Analysis Plan
SCDM	Superfund Chemical Data Matrix
SEMS	Superfund Enterprise Management System
SEP	soil exposure pathway
SI	Site Inspection
SQL	sample quantitation limit
SSL	soil screening level
SVE	soil vapor extraction
TCA	trichloroethane
TCE	trichloroethylene
TDL	target distance limit
TOC	Top of Casing
TRI	Toxics Release Inventory
UST	underground storage tank
VOC	volatile organic compound
VC	vinyl chloride
WESTON®	Weston Solutions, Inc.
WPA	wellhead protection area
µg/kg	microgram per kilogram
µg/L	microgram per liter
µg/m <sup>3</sup>	micrograms per cubic meter

## EXECUTIVE SUMMARY

The Dunn Edwards Corporation (Dunn Edwards) site is officially located at 4885 E. 52nd Pl., Vernon, Los Angeles County, California. Multiple additional addresses are associated with the site. The 7.8-acre site is located in a primarily urban industrial area. The site is located less than one-quarter mile from residential properties, a public park, and a preschool.

Dunn Edwards began operating at the site in approximately 1955 as a manufacturer of lacquers, oil-based paints, and water-based paints. On-site lacquer manufacturing ceased in 1999 and on-site water-based paint manufacturing ceased in 2011. Between approximately 1967 and 2007, a building at the central portion of the site, referred herein as the 4905 Former Lease Building, was used by other operators for decal, garment, and furniture manufacturing.

Potentially hazardous substances utilized in current and/or historical on-site operations include lacquer thinner, mineral spirits, methyl ethyl ketone (MEK), isopropyl alcohol, methyl isobutyl ketone (MIBK), ethylene glycol monobutyl ether (EGBE), n-butyl acetate, and toluene. No evidence was found indicating that either PCE or TCE had historically been used on site.

Twelve underground storage tanks (USTs) were historically located adjacent to the Lacquer Plant and were identified as having leaked into the underlying soil. Three existing USTs are located adjacent to the Oil Plant, two of which are currently in use. Approximately 45 aboveground storage tanks (ASTs) are also located on site; however, it is not known how many of the ASTs are currently in use. A clarifier and sump are located adjacent to the Oil Plant and an additional sump is located adjacent to the Water Plant. It is not known if the sumps are currently in use.

The U.S. Environmental Protection Agency (EPA) has had no known historical involvement with the site. The site is located approximately 450 feet (ft) northwest of the Pemaco Superfund site. Several volatile organic compound (VOC) plumes have been identified as originating from the Pemaco site; however, there is evidence to suggest that the Pemaco plumes are comingling with VOCs from an off-site and upgradient source.

Since 1984, multiple soil vapor, soil matrix, and groundwater investigations have been conducted at the site, primarily in relation to the leaking Lacquer Plant USTs. These investigations, which were conducted under the oversight of the California Regional Water Quality Control Board (RWQCB) and/or the Vernon Health and Environmental Control Department (ECD), identified elevated concentrations of select VOCs in subsurface soils, primarily of the non-halogenated compounds. The impacted areas have since undergone remediation. The California Department of Toxic Substances Control (DTSC) has had no known significant involvement with the site.

In February and March 2016, Weston Solutions, Inc. (WESTON), on behalf of EPA, conducted the Site Inspection (SI) at the site. During the SI, WESTON collected soil matrix source samples at depths up to 15 ft below ground surface (bgs) from six on-site borings; collected groundwater release samples at depths up to 116 ft bgs from five on-site borings; and collected secondary objective groundwater samples from five off-site borings.

On-site soil samples collected during the SI did not exhibit concentrations of metals or VOCs that exceeded the site-specific action levels.

Groundwater samples collected during the SI exhibited elevated concentrations of metals and VOCs. Maximum concentrations in perched aquifer samples include arsenic at 21 micrograms per liter ( $\mu\text{g/L}$ ) and TCE at 32  $\mu\text{g/L}$ . Maximum concentrations in Exposition aquifer samples include cis-1,2-dichloroethylene (DCE) at 130  $\mu\text{g/L}$ , PCE at 7.0  $\mu\text{g/L}$ , and TCE at 13,000  $\mu\text{g/L}$ . The most elevated concentrations were exhibited in the sample collected from 90 ft bgs near the northeastern (i.e., upgradient) site boundary. The Gaspur aquifer is not defined beneath the site. The federal Maximum Contaminant Levels (MCLs) for arsenic and cis-1,2-DCE are 10  $\mu\text{g/L}$  and 70  $\mu\text{g/L}$ , respectively. The MCL for both PCE and TCE is 5.0  $\mu\text{g/L}$ .

The results of this SI did not identify any hazardous substance sources at the site; however, the perched aquifer groundwater results suggest that one or more arsenic and/or TCE source areas may exist on or near the site. Furthermore, the substantially elevated TCE concentrations identified in the Exposition aquifer beneath the site suggest the presence of a relatively large, and as yet unidentified, VOC source area located upgradient of the central portion of the Dunn Edwards site.

## 1.0 INTRODUCTION

### 1.1 Regulatory Background

Under the authority of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), Weston Solutions, Inc. (WESTON®) has been tasked to conduct a Site Inspection (SI) of the Dunn Edwards Corporation (Dunn Edwards) site in Vernon, Los Angeles County, California.

The Dunn Edwards site was identified as a potential hazardous waste site and entered into the Superfund Enterprise Management System (SEMS) on June 30, 2014 (CAN000900143). A Preliminary Assessment (PA) was completed for the U.S. Environmental Protection Agency (EPA) by WESTON on June 16, 2015. The purpose of a PA is to review existing information on a site with potential releases of a hazardous substance and its environs to assess the threats, if any, posed to public health, welfare, or the environment and to determine if further investigation under CERCLA is warranted. Prior to the 2015 WESTON PA, EPA completed a Site Screening in October 2014 (DTSC, 2014; EPA, 2017a; Weston, 2015).

After reviewing the 2015 PA, EPA decided that further investigation of the Dunn Edwards site would be necessary to more completely evaluate the site using the EPA Hazard Ranking System (HRS) criteria. The HRS assesses the relative threat associated with actual or potential releases of hazardous substances at the site. The HRS has been adopted by EPA to help set priorities for further evaluation and eventual remedial action at hazardous waste sites. The HRS is the primary method of determining a site's eligibility for placement on the National Priorities List (NPL). The NPL identifies sites at which EPA may conduct remedial response actions. This report summarizes the results of the SI for the Dunn Edwards site (EPA, 2015a).

More information about the Superfund program is available on the EPA website at <http://www.epa.gov/superfund>.

### 1.2 Apparent Problem

EPA determined that a Site Inspection (SI) was needed at the Dunn Edwards site because of the following apparent problems:

- The site has been used for the manufacturing of lacquers, oil-based paints, and/or water-based paints since approximately 1955. In addition, portions of the site were used for printing/decal, garment, and furniture manufacturing from approximately 1967 to 2007 (Weston, 2015).
- Environmental investigations conducted at the site have identified elevated concentrations of volatile organic compounds (VOCs) in groundwater including, but not limited to, 1,1,1-trichloroethane (TCA); methyl ethyl ketone (MEK) (i.e., 2-butanone); acetone; benzene; carbon disulfide; ethylene glycol monobutyl ether (EGBE); tetrachloroethylene



(PCE); toluene; and trichloroethylene (TCE) (JHK, 1985; SCEI, 1991; SCEI, 2000; SCEI, 2005; SCEI, 2009).

- The site is located within the North East 710 Study Area (NE710). Drinking water wells in the NE710 have historically been impacted by elevated levels of metals and VOCs. The area is under investigation in order to identify the primary sources of this contamination and facilitate further investigation and remediation at those sources under the auspices of either EPA or the State of California. The site is located approximately 370 feet (ft) southeast of the Maywood Mutual Water Company #3's Well 07, which has consistently exhibited elevated concentrations of TCE (Google, 2017; RWQCB, 2017a; Weston, 2016).
- The site is located approximately 450 ft northwest of the Pemaco Superfund site, which was placed on the NPL in 1999. Several VOC plumes, primarily composed of TCE and/or cis-1,2-dichloroethylene (DCE), have been identified as originating from the Pemaco site; however, the upgradient plume boundaries have not been fully defined and there is evidence to suggest that they are comingling with VOCs from an off-site source (EPA, 2015b).

## 2.0 SITE DESCRIPTION

### 2.1 Location

(See Figure 1)

The Dunn Edwards site is located at 4885 E. 52nd Pl., Vernon, California. Additional addresses associated with the site include 4895, 4905, 4925, 4935, 4945, 4961, and 4979 E. 52nd Pl. The geographic coordinates for the site are 33° 59' 15.5" North latitude and 118° 10' 31.8" West longitude (Appendix A). The location of the site is shown in Figure 1 (AECOM, 2017; LACA, 2017; Weston, 2015).

### 2.2 Site Description

(See Figures 2 & 3)

The Dunn Edwards site occupies approximately 7.8 acres in an urban industrial area. The site is bordered to the northwest by an industrial and specialty gas manufacturing facility (MATHESON). The site is bordered to the southwest, across East 52<sup>nd</sup> Place, by a recreational sports field (Maywood Park) and the 4900 block of East Slauson Avenue, which is occupied by multiple light industrial businesses whose activities include, but are not limited to, auto body repair, metal heat treating, air-conditioning unit servicing, and graphic printing. The site is bordered to the southeast by an electrical services company (Blacksten Industrial Electric) and a furniture manufacturing facility (I R Furniture). The site is bordered to the northeast, across the Los Angeles (LA) Junction railway lines, by a metal grinding facility (Steel Services Grinding Co.), a meat manufacturing and distribution facility (Charlie's Fine Meats), a plastic recycling facility (Joe's Plastics, Inc.), and a produce distribution facility (Farm Fresh to You) (Google, 2017; Appendix B).

The site is composed of five Los Angeles County Assessor parcels, which are identified by Assessor Parcel Numbers (APNs) 6314-022-015, 6314-022-011, 6314-021-017, 6314-021-016 and 6314-021-015. According to the County Assessor's Office; the site parcels recently underwent several reconfigurations and have not been finalized in the County system. As part of this reconfiguration process, the parcels have been assigned various additional numbers, which have since been deleted. Consequently, some parcel information was not currently available for inclusion in this report. As recently as October 2014, the site was divided into nine parcels. A parcel layout map is presented in Figure 2 (LACA, 2017; Weston, 2015; Appendix C-1).

As of October 2016, the site consisted of five primary areas, which included the Corporate Office Building at the northwestern portion of the site, the Lacquer Plant at the northern portion of the site, the 4905 Former Lease Building at the north-central portion of the site, the Oil Plant at the south-central portion of the site, and the Water Plant at the southern portion of the site. A site layout map is presented in Figure 3 (Google, 2017; Appendix B).

The two-story Corporate Office Building, which encompasses approximately 14,000 square feet (ft<sup>2</sup>), was built in two primary phases: the southern half was constructed in approximately 1962, and the northern half was added in approximately 1976 (Weston, 2015; Appendix B).

The Lacquer Plant, which encompasses approximately 30,000 ft<sup>2</sup>, was also built in separate phases: the eastern portion was constructed in approximately 1962, and the western portion was added in

approximately 1972. Prior to the shuttering of the Lacquer Plant in 1999, the building was occupied by a manufacturing area at the northeast, a labelling area at the central-northeast, a raw material storage area at the central-northwest, a warehouse and can storage area at the central-southeast, and a color card storage and warehouse area at the southwest. An approximately 400 ft<sup>2</sup> storage building was located approximately 20 ft northwest of the northern portion of the plant. Eight cylindrical aboveground storage tanks (ASTs) were located southeast-adjacent to the northern portion of the plant. Twelve underground storage tanks (USTs), which ranged in capacity from approximately 4,000 gallons to 8,000 gallons, were historically located southeast-adjacent to the AST farm. The USTs were removed in two stages: three USTs were removed in 1989, and the remaining nine USTs were removed in 1998. Additional information regarding the UST removal actions is provided in section 3.1 (SCEI, 2010; Weston, 2015; Appendix B).

The 4905 Former Lease Building, which encompasses approximately 21,000 ft<sup>2</sup>, was constructed in approximately 1951. A small office was located at the southwestern part of the building whereas the remaining portion was occupied by a manufacturing area (Weston, 2015; Appendix B).

The Oil Plant, which encompasses approximately 56,000 ft<sup>2</sup>, was built in approximately 1952. The plant included a manufacturing area at the northeast, a can storage and labelling area at the west, a materials storage area at the center, and several offices at the south and southwest. Eleven cylindrical ASTs and three USTs were located northeast-adjacent to the Oil Plant. In addition, a clarifier and sump were located south of the AST area along the northeastern edge of the building (Weston, 2015; Appendix B).

The Water Plant, which encompasses approximately 45,000 ft<sup>2</sup>, was built in approximately 1952 with additions built at the central portion of the plant in approximately 1968 and at the southwestern edge of the plant in approximately 1979. Prior to the shuttering of the Water Plant in 2011, the central portion of the building was occupied by a can storage and labelling area whereas the remaining portions of the plant were occupied by various manufacturing areas. Twelve cylindrical ASTs were located southeast-adjacent to the plant and an additional 13 cylindrical ASTs were located northeast-adjacent to the plant. An approximately 7,000 ft<sup>2</sup> annex building was located at the east-central portion of the site, northeast-adjacent to the Oil Plant. In addition, a sump was located northwest-adjacent of the building in the alley situated between the water and oil plants (Weston, 2015; Appendix B).

Two off-site and adjacent parcels were also reportedly associated with the site. These parcels were formerly identified by APNs 6314-020-017 and 6314-020-018 but have since been redesignated as 6314-020-041 and 6314-020-042. The parcels are located northeast-adjacent to the site, across the LA Junction railway line and, as of October 2016, were occupied by the parking lot for a produce distribution facility (Farm Fresh to You). In at least 1985, the parcel was occupied by approximately four small structures and a UST. The specific time period that these parcels were associated with the site is not known (JHK, 1985; RWQCB, 2017b; Weston, 2015; Appendix B).

## 2.3 Operational History

(See Table 1)

The entirety of the Dunn Edwards site is currently owned by the Dunn Edwards Corporation. Dunn Edwards has owned most of the site since approximately 1955. Parcel 6314-022-011, which was formerly identified by APNs 6314-022-803 and 6314-021-803 and includes the 4905 Former Lease Building, was reportedly purchased by Dunn Edwards in June 2006. This parcel was owned by the Colortone Decal Company from 1967 to 2002 and by the William and Kimberly Patsy Trust from 2003 to 2006. Additional historical ownership information is not known (Weston, 2015; Appendix C-1).

Historical operations at the site included the manufacturing of lacquers, oil-based paints, and water-based paints since approximately 1955. In addition, from approximately 1967 to 2007, historical operations at the 4905 Former Lease Building included decal, garment, and furniture manufacturing. The identified current and historical operators at the site are provided in Table 1 (Weston, 2015).

Dunn Edwards was founded in 1925 in Los Angeles, California, and, in response to the increased demand caused by post-war economic expansion, relocated to the site in approximately 1955. The original 5,000 ft<sup>2</sup> manufacturing plant continued to expand across the site through the 1960s and 1970s until, due to lack of available on-site space, a new plant was constructed in Tempe, Arizona. In June 2011, Dunn Edwards opened a new facility in Phoenix, Arizona, and most of the company's manufacturing operations were consolidated into the new facility, although the company's corporate offices remained on site. As of March 2016, the only on-site manufacturing activities were being conducted within the Oil Plant and the remaining portions of the site were being used for administrative and storage activities (Weston, 2015; Appendix B).

The mixing and manufacturing of oil-based paints primarily occurs in the northeastern portion of the Oil Plant. Labelling and printing activities are conducted in the southeastern and southwestern portions of the plant and the central portion of the plant is used for can and material storage. Potentially hazardous substances used in the oil-based paint manufacturing process are primarily stored in the adjacent ASTs and USTs. As of March 2016, only two of the three USTs and four of the 11 ASTs were in use. The active USTs contained mineral spirits and the active ASTs contained alkyd resin solution and long-oil alkyd resin. In addition, drums of various alkyd resins were being stored within the production area of the plant. Additional specific hazardous substances associated with current and/or historical oil-paint manufacturing activities are not known (JHK, 1985; Weston, 2015).

Historically, the mixing and manufacturing of lacquers primarily occurred in the northeastern portion of the Lacquer Plant whereas the central and southwestern portions of the plant were used for paint storage and warehousing activities. Drum storage was conducted in designated areas formerly located immediately to the northeast and south of the manufacturing area. Reportedly, the small building located to the northwest of the plant was used only for the storage of clean drums. On-site lacquer manufacturing operations reportedly ceased in 1999. Potentially hazardous substances utilized during the lacquer manufacturing process were primarily stored in the adjacent ASTs and USTs and included, but were not limited to, lacquer thinner, mineral spirits, MEK,

isopropyl alcohol (i.e., 2-propanol), methyl isobutyl ketone (MIBK) (i.e., 4-methyl-2-pentanone), EGBE, n-butyl acetate, and toluene. In 1989, three of the nine Lacquer Plant USTs were removed. In 1999, the remaining USTs were removed and replaced with two multi-compartment USTs, which were reportedly never used and were removed in 2005. Additional information regarding the removal of these USTs is provided in section 3.1. Reportedly, all of the Lacquer Plant ASTs and USTs are currently empty and inactive (JHK, 1985; SCEI, 1991; SCEI, 2010; Weston, 2015).

Historically, the mixing and manufacturing of water-based paint primarily occurred in the northwestern (manual) and southeastern (automated) portions of the Water Plant. Automated manufacturing operations were conducted by use of a slurry system. The remaining portions of the plant were used for labelling and warehousing activities. Chemicals and materials used in the water-based paint manufacturing process were stored within the adjacent ASTs. In approximately 2011, all on-site water-based paint manufacturing operations, including the automated slurry system, were relocated to the Phoenix plant. Specific hazardous substances used in historical operations at the Water Plant are not known and it is not known whether the plant's 25 ASTs are currently in use (JHK, 1985; Weston, 2015).

Between approximately 1967 and 1998, the 4905 Former Lease Building was used by the Colortone Decal Company for decal manufacturing and printing services. Between approximately 1998 and 2002, the building was used for a combination of administrative activities by the Mass International Industries Corporation and garment manufacturing activities by RDD USA. Between approximately 2003 and 2007, the facility was used for furniture manufacturing by Fernandez Custom Furniture, Inc. Since approximately 2007, the building has been used by Dunn Edwards for miscellaneous equipment storage. Between approximately 2000 and 2013, a relatively small section at the northern corner of the property was used by Nextel, Inc. for cellular telephone communication operations, which included the storage of lead-acid batteries for emergency backup purposes. Specific hazardous substances associated with historical decal, garment, and/or furniture manufacturing operations at the site are not known (Weston, 2015; Appendix B).

Historically, Dunn Edwards utilized at least two off-site and adjacent parcels during routine operations, with addresses of 5807 and 5811 District Blvd, which are currently being used for employee parking by the adjacent grocery distribution business. Dunn Edwards reportedly used these parcels for employee parking and materials storage, including drum storage. In 1986, the UST located on this property was identified as having released aviation fuel to the subsurface soils. The impacted soil was reportedly excavated and removed by the City of Vernon, Health and Environmental Control Division (ECD). The specific time period that these parcels were used for site-related activities is not known. The parcels are currently being utilized as the parking lot for a produce distribution facility (Farm Fresh to You) (JHK, 1985; RWQCB, 2017b; Weston, 2015).

Unaltered petroleum products, as well as any substances that are purposefully added to the indigenous petroleum product during the refining process, are excluded from consideration under CERCLA.

## 2.4 Regulatory Involvement

### 2.4.1 U. S. Environmental Protection Agency

The Dunn Edwards site is listed in the Resource Conservation and Recovery Information System (RCRIS) database as *Dunn-Edwards Corporation* (Handler ID: CAD008236648), a Large Quantity Generator with an address of 4885 E. 52nd Pl. The site is also listed as *Colortone* (Handler ID: CAD982336034), a Small Quantity Generator with an address of 4905 E. 52nd Pl. (EPA, 2017b).

The site is listed in the Toxics Release Inventory (TRI) database as *Dunn Edwards Corp* (TRI ID: 90040DNNDW4885E) with an address of 4885 E. 52nd Pl. The most recent release information provided in the database is from 1998. Listed chemicals include *certain glycol ethers, methyl ethyl ketone, n-dioctyl phthalate, toluene, and xylene (mixed isomers)* (EPA, 2017c).

The Dunn Edwards site is located approximately 450 ft northwest of the Pemaco Superfund site. The Pemaco site is a former chemical mixing facility that used and stored hazardous substances including chlorinated solvents, aromatic solvents, and flammable liquids. Initial investigations of the site conducted in the mid-1990s identified substantially elevated concentrations of VOCs in on-site subsurface soils and groundwater including, but not limited to, dichloroethane (DCA), TCA, PCE, TCE, and vinyl chloride (VC). EPA placed the site on the NPL in 1999 and signed the Record of Decision (ROD) in 2005. In accordance with the ROD, the site was converted into the Maywood Riverfront Park, which opened to the public in 2008. Various soil and groundwater remediation techniques are ongoing at the site, which have been successful in reducing subsurface VOC concentrations. Several VOC plumes, primarily composed of TCE and/or cis-1,2-DCE, have been identified as originating from the site; however, the upgradient plume boundaries have not been fully defined and there is evidence to suggest that they are comingling with VOCs from an off-site source (EPA, 2015b; Weston, 2015).

### 2.4.2 California Environmental Protection Agency, Department of Toxic Substances Control (DTSC)

The site is listed in the California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) EnviroStor database as *Dunn Edwards* (Envirostor ID: 60001974), with an address of 4905 E. 52<sup>nd</sup> Pl. The case is listed as an *Evaluation* site that was referred to EPA as of June 11, 2014. DTSC has had no known additional involvement with the site (DTSC, 2017).

### 2.4.3 California Environmental Protection Agency, Regional Water Quality Control Board (RWQCB)

The site is listed in the California Environmental Protection Agency, Regional Water Quality Control Board (RWQCB) GeoTracker database as *Dunn-Edwards Paints* (GeoTracker ID: T0603700979; Case No.: 900400061), with an address of 4885 E. 52nd Pl. The site is listed as a *LUST Cleanup Site* with a cleanup status as *Open – Site Assessment as of 3/6/2000*. The potential contaminants of concern are listed as *solvents* and the potential media of concern is listed as *soil*.

The off-site property that historically was used for materials storage by Dunn Edwards is also listed in the database. This property is listed as *Dunn-Edwards Corp.* (GeoTracker ID: T0603701144; Case No.: 900580089), with an address of 5811 District Blvd. The case is listed as a *LUST Cleanup Site* with a cleanup status as *Completed – Case Closed as of 1/1/2000*. The potential contaminants of concern are listed as *aviation* and the potential media of concern is listed as *soil* (RWQCB, 2017b).

In approximately 1984, RWQCB requested that Dunn Edwards implement a monitoring program for on-site USTs. In March 1985, Dunn Edwards completed an Environmental Monitoring Study investigation that included the collection of soil and groundwater samples from the site. The investigation also included the installation of 10 monitoring wells, which were generally located northeast of the Lacquer and Oil plants. In November 2016, RWQCB requested that Dunn Edwards complete a soil vapor assessment at the former Lacquer Plant UST area to assess potential vapor intrusion risks to indoor air quality. Dunn Edwards completed the soil vapor assessment in May 2017. Additional information regarding these investigations is provided in section 3.1 (JHK, 1985).

#### **2.4.4 City of Vernon, Health and Environmental Control Department (ECD)**

Between approximately 1989 and 2010, ECD (formerly the Vernon Environmental Control Section) conducted oversight over numerous soil vapor, soil matrix, and groundwater investigations at the site. These investigations were primarily associated with the Lacquer Plant UST area and included the installation and operation of a soil vapor extraction (SVE) system and a limited groundwater monitoring well network. A VOC rebound study conducted in April 2008 concluded that asymptotic levels of VOC concentrations in soil had been reached. Quarterly groundwater monitoring reported that all VOC analytes within the shallow perched aquifer had exhibited non-detectable concentrations from 2005 through 2009 (ECD, 2010; SCEI, 1991; SCEI, 2000; SCEI, 2010).

In 2009, Dunn Edwards requested that ECD approve the termination of SVE operations due to asymptotic VOC concentrations having been reached, and the termination of groundwater monitoring due to approximately 20 rounds of monitoring with no reportable VOC concentrations. ECD approved the request contingent upon the complete removal of impacted soils. Dunn Edwards conducted a soil removal operation in December 2009 and requested site closure from ECD. In March 2010, ECD issued a *No Further Action* letter for the Lacquer Plant UST area (ECD, 2010; SCEI, 1991; SCEI, 2000; SCEI, 2010).

### 3.0 INVESTIGATIVE EFFORTS

#### 3.1 Previous Sampling

(See Table 2)

In November 1984, under the oversight of RWQCB, Dunn Edwards conducted a soil matrix and groundwater investigation at the Dunn Edwards site. The investigation included the advancement of 10 borings to total depths that ranged from 40 to 50 ft below ground surface (bgs) with soil samples collected at 5-ft intervals. Each of the 10 soil borings was converted into a groundwater monitoring well upon completion and static water levels were measured. Four of the wells were installed northeast-adjacent to the Oil Plant, five of the wells were installed northeast-adjacent to the Lacquer Plant, and one well was installed on the off-site property that was formerly used by Dunn Edwards for drum and materials storage. Soil and groundwater samples were selectively analyzed for total petroleum hydrocarbons and/or VOCs, although specific information as to which samples were submitted for which analysis is not known. None of the soil-matrix samples exhibited detectable concentrations of the requested analytes; however, the list of requested analytes does not appear to have contained numerous VOCs including, but not limited to, 1,1,1-TCA, PCE, or TCE. Groundwater samples collected from adjacent to the Oil Plant exhibited up to 12 micrograms per liter ( $\mu\text{g/L}$ ) of 1,1,1-TCA, 10  $\mu\text{g/L}$  of benzene, 2.0  $\mu\text{g/L}$  of methylene chloride, 7.0  $\mu\text{g/L}$  of PCE, and 4.0  $\mu\text{g/L}$  of TCE. Groundwater samples collected from adjacent to the Lacquer Plant exhibited up to 33  $\mu\text{g/L}$  of TCE. Groundwater was not encountered in the single off-site well. No additional VOCs were reported in the groundwater samples; however, the complete list of requested analytes for each sample is not known (JHK, 1985).

In the late 1980s, under the oversight of ECD, Dunn Edwards installed a vapor detection system adjacent to the Lacquer Plant UST area and subsequently conducted integrity testing of the USTs. Based on the results of the testing, three of the 12 USTs were removed and a “small volume” of impacted soil was excavated and removed. In approximately 1989, the vapor detection system failed and Dunn Edwards subsequently conducted a subsurface investigation. This investigation reported elevated soil concentrations of 1-butanol, MEK, and EGBE to a depth of approximately 26 ft bgs. A grab groundwater sample was collected from approximately 32 ft bgs that exhibited elevated concentrations of EGBE. In 1991, a monitoring well was installed within the perched aquifer adjacent to the former UST area. A sample collected from this well exhibited 160  $\mu\text{g/L}$  of isopropyl alcohol, 72,000  $\mu\text{g/L}$  of EGBE, 150  $\mu\text{g/L}$  of MEK, and 280  $\mu\text{g/L}$  of toluene (SCEI, 1991).

In 1998, under the oversight of ECD, Dunn Edwards removed the remaining nine USTs in the Lacquer Plant UST area and replaced them with two double-walled, three-compartment USTs. Following the removal of the USTs, 18 soil-matrix confirmation samples were collected from the base of the excavation and submitted for total petroleum hydrocarbon and VOC analysis. The soil samples exhibited VOC concentrations up to, but not limited to, 44 microgram per kilogram ( $\mu\text{g/kg}$ ) of MEK; 27,000  $\mu\text{g/kg}$  of PCE; and 2,770,000  $\mu\text{g/kg}$  of toluene (AECOM, 2017).

In October 1999, Dunn Edwards conducted an additional investigation in the UST area under the oversight of ECD. This investigation included the advancement of five subsurface soil borings to total depths that ranged from 31 to 41 ft bgs, two of which were then converted to groundwater



monitoring wells. Soil samples were collected from each boring at 5-ft intervals and submitted for VOC and alcohol, acetate, and cyclohexane analysis. In 2000, groundwater samples were collected from the previously installed well and the two new wells. These samples were also submitted for VOC and alcohol, acetate, and cyclohexane analysis. One or more of the soil samples exhibited elevated concentrations of 1-butanol, isopropyl alcohol, cyclohexane, ethyl acetate, EGBE, and toluene. Groundwater samples exhibited up to 8.0 µg/L of carbon disulfide and 63 µg/L of toluene. No additional analytes were reported above laboratory detection limits; however, the full suite of analyzed compounds is not known (AECOM, 2017; SCEI, 2000).

In 2001, under the oversight of ECD, Dunn Edwards installed a vapor extraction well in the Lacquer Plant UST area. In 2003, Dunn Edwards began the operation of an SVE system for the purpose of remediating non-halogenated hydrocarbons in subsurface soils. In 2005, the two USTs that had been previously installed in 1998 and reportedly never used, were excavated and removed from the site. In 2008, a VOC rebound study was conducted that concluded that asymptotic levels of VOCs had been reached and Dunn Edwards subsequently requested that ECD issue a No Further Action letter. Prior to case closure, ECD required that an additional round of discrete confirmation soil sampling be conducted. The subsequent soil sampling indicated elevated concentrations of EGBE remained in subsurface soils at approximately 15 ft bgs. In 2009, an approximately 330 ft<sup>2</sup> area was excavated to a depth of approximately 24 ft bgs. Confirmation samples were analyzed for EGBE and exhibited non-detectable concentrations. The excavated pit was backfilled with clean soil, resurfaced with concrete, and the stockpiled soil was disposed to a landfill (SCEI, 2010).

Between approximately 2000 and 2009, under the oversight of ECD, Dunn Edwards conducted quarterly groundwater monitoring in the three monitoring wells adjacent to the Lacquer Plant UST area. Between approximately 2000 and 2005, the maximum concentrations of analytes identified during the monitoring included 200 µg/L of acetone, 30 µg/L of carbon disulfide, 39,000 µg/L of EGBE, 470 µg/L of MEK, and 63 µg/L of toluene. Since December 2005, all analytes have exhibited non-detectable concentrations. In December 2010, with the concurrence of ECD, Dunn Edwards destroyed all three of the Lacquer Plant UST area monitoring wells (SCEI, 2005; SCEI, 2009; SCEI, 2010).

In April and May 2017, at the direction of RWQCB, Dunn Edwards conducted a soil vapor study of the Lacquer Plant UST area to assess the vapor intrusion threat to indoor air quality. The investigation included the installation of eight soil vapor probes at four locations within the UST area. At each location, probes were installed at depths of approximately 5 ft bgs and 10 ft bgs. The only analyte identified in the samples at a concentration above its quantitation limit was PCE, which was identified at a concentration of 131 micrograms per cubic meter (µg/m<sup>3</sup>). The residential Environmental Screening Level for PCE, as published by RWQCB, is 240 µg/m<sup>3</sup> (AECOM, 2017).

No additional soil vapor, soil matrix, or groundwater sampling is known to have been conducted at the Dunn Edwards site.

### 3.2 Site Inspection (SI) Sampling

(See Figures 4 through 7 & Tables 3 & 4)

In February and March 2016, WESTON, on behalf of EPA, conducted the 2016 SI sampling event at the Dunn Edwards site. The event included soil matrix source sampling, groundwater release sampling, and secondary objective groundwater sampling. The primary objective of the investigation was to document information to be used in the HRS characterization process, including source areas and levels of contamination in site soils and groundwater. The secondary objective of the investigation was to identify subsurface lithology and levels of contamination within various water-bearing zones, both on and near the site. This information will be utilized in the development of a more comprehensive understanding of the hydrogeologic conditions that exist within the greater NE710 Study Area as well as the subbasin as a whole.

Sampling methodology, locations, analyses, and analytical results are summarized below. The Sampling and Analysis Plan (SAP), which was approved by EPA in February 2016, is provided in Appendix F.

Based on the historical use of the site, the elevated concentrations of contaminants in nearby municipal drinking water wells, and the previous sampling events described in section 3.1, analytes of concern (AOCs) at the site were identified as: 1,1,1-TCA; MEK; MIBK; acetone; benzene; carbon disulfide; cyclohexane; PCE; toluene; and TCE. Additional AOCs that were identified based on the results of the 2016 SI investigation include arsenic; manganese; 1,1,2-TCA; 1,1-DCA; 1,1-DCE; 1,2-DCA; cis-1,2-DCE; and VC.

All samples were submitted under the EPA Contract Laboratory Program to Eurofins Spectrum Analytical, Inc. for metal analysis by EPA Contract Laboratory Program Analytical Services (CLPAS) ISM02.3 or Chemtech Consulting Group for VOC analysis by EPA CLPAS SOM02.3. The data were validated by the EPA Region 9 Quality Assurance Office. The complete validated analytical results are presented in Appendix H. The sample locations are shown in Figure 4 and Figure 5.

#### 3.2.1 Action Levels

In accordance with the HRS, the action levels to establish an observed release to groundwater and to establish an on-site source of contaminated soil, are “significantly above background” concentrations. “Significantly above background” is defined as three times the background concentration for all media. When a background concentration is not detected at or above the method detection limit (MDL), the assigned background concentration is the sample quantitation limit (SQL); “significantly above background” for this scenario is defined as a concentration at or above the SQL.

Soil matrix samples collected from Boring DEC-DP-1, which is located on site within the northeastern portion of the 4905 Former Lease Building, are designated as background soil samples for HRS purposes. The assigned background concentration for each analyte was determined by amalgamating the concentration data from each of the four discrete-depth soil samples. For any analyte with a reported MDL exceedance in the dataset, the background

concentration was conservatively assigned as the arithmetic mean plus three times the standard deviation. For any analyte without an MDL exceedance, the background concentration was conservatively assigned as the maximum SQL value within the dataset. The assigned soil-matrix action levels for select metals are presented in Table 3.

Although the selected background location is situated within the historical operational area of the site, the exhibited concentrations were deemed to be generally consistent with published background levels for native soils in the region and appear unlikely to have been significantly impacted by hazardous substances associated with that site. VOCs were not reported at concentrations above their respective MDLs in any of the four discrete-depth background soil samples. The 2016 SAP (Appendix F) indicates that background soil matrix samples were to be collected from Boring DEC-CPT-6, which is located on Slauson Avenue, approximately 1,100 ft west-southwest of the site; however, due to logistical and scheduling conflicts, no soil matrix samples were collected from that location and it was determined that Boring DEC-DP-1 was a suitable alternative location. Select discrete-depth analytical results for the assigned soil matrix background samples for metals are presented in Table 3 and the complete analytical results are provided in Appendix H.

Since a hazardous substance source area was not identified during the SI investigation, it was deemed unnecessary for HRS purposes to assign either a perched aquifer or an Exposition aquifer background sample location. Furthermore, due to local variations and uncertainties in the groundwater flow direction within the perched aquifer underlying the site, a perched aquifer background (i.e., upgradient) sample location could not be determined. See section 4.2.1 for a description of the shallow aquifers underlying the site.

### 3.2.2 Source Sampling

(See Figures 4 & 6; Table 3)

To establish hazardous substance source areas at the site, WESTON collected subsurface soil matrix samples using Direct Push (DP) technology from six selectively-biased on-site boring locations, designated as DEC-DP-1 through DEC-DP-6. All six of the locations were situated on the central portion of the site. Source sample locations are presented in Figure 4.

Boring DEC-DP-1 was advanced within the interior of the northeastern portion of the 4905 Former Lease Building. Boring DEC-DP-2 was advanced south-adjacent to the Lacquer Plant UST area. Boring DEC-DP-3 was advanced within the interior of the central portion of the 4905 Former Lease Building. Boring DEC-DP-4 was advanced southwest-adjacent to the Oil Plant UST area. Boring DEC-DP-5 was advanced in the approximate area of the sump within the northwestern portion of the Water Plant; however, the sump itself was not located. Boring DEC-DP-6 was advanced adjacent to the existing clarifier and sump immediately northeast of the Oil Plant. Borings DEC-DP-1, DEC-DP-3, and DEC-DP-5 were advanced using a limited-access drill rig. At each location, the subsurface lithology was logged to the total depth of the boring, which ranged from 29 to 37 ft bgs, and soil matrix samples were collected from depths of 2, 5, 10, and 15 ft bgs. The soil lithologies from each boring were relatively consistent with soils composed primarily of light brown to medium brown fine sands and silty sands with interbedded lenses (generally less

than 2 ft) of medium brown to dark brown clayey silts and clays. Field observations and subsurface soil descriptions are provided in Appendix I.

*Metal Results:*

*(See Figure 5; Table 3)*

No metals were identified at concentrations at or above their corresponding action level in soil matrix samples collected during the investigation. Ten metal analytes were identified in one or more samples at concentrations that exceeded the SQL but appeared to be generally consistent with background concentrations. These detected metals included arsenic, barium, chromium, cobalt, copper, lead, manganese, nickel, vanadium, and zinc. Action levels were assigned per the methodology described in section 3.2.1. Select analytical results and assigned action levels are presented in Table 3.

*Volatile Organic Compound (VOC) Results:*

No VOCs were identified at concentrations at or above their corresponding action level in soil matrix samples collected during the investigation. Only acetone, methyl acetate, and methylene chloride were identified in samples at concentrations at or above their MDL; however, these analytes are common laboratory contaminants and the reported detections may not be indicative of actual conditions in the sampled medium. Since no VOC analytes were identified in the background soil matrix samples at concentrations exceeding their corresponding MDL, the reported SQLs of the background samples were assigned as the VOC action levels (see section 3.2.1).

**3.2.3 Release Sampling**

*(See Figures 4 & 6; Table 4)*

To establish a release of one or more hazardous substances from on-site source areas to groundwater beneath the site, WESTON collected discrete-depth groundwater samples from the perched and Exposition aquifers. See section 4.2.1 for a description of the shallow aquifers underlying the site. As part of the investigation, groundwater samples were collected from three selectively-biased on-site locations using Direct Push (DP) and Cone Penetration Testing (CPT) technology.

For HRS purposes, no action levels are assigned for contaminants identified within the perched or Exposition aquifers beneath the site (see section 3.2.1). For reporting purposes, analyte concentrations are referenced against documented federal and state regulatory benchmarks. Release sample locations are presented in Figure 4.

Two of the three release samples were collected from on-site direct push borings, which included borings DEC-DP-3 and DEC-DP-5. Both samples were collected from depths consistent with the perched aquifer. Boring DEC-DP-3 was advanced within the interior of the central portion of the 4905 Former Lease Building. Boring DEC-DP-5 was advanced in the approximate area of the sump within the northwestern portion of the Water Plant; however, the sump itself was not located. Both borings were advanced using a limited-access drill rig. One of the three release samples was collected from an on-site CPT boring, Boring DEC-CPT-4. This sample was collected from a depth

consistent with the Exposition aquifer. Boring DEC-CPT-4 was advanced along the southwestern site boundary, approximately 25 ft south of the Oil Plant. As a result of poor recovery at Boring DEC-DP-3, the sample collected from this location was submitted for VOC analysis only.

#### Metal Results:

(See Figure 6; Table 4)

Metals identified at concentrations at or above their corresponding SQL in groundwater release samples collected during the investigation include antimony, arsenic, barium, cobalt, manganese, nickel, vanadium, and zinc. Additional metal analytes identified at concentrations below their SQL but above their MDL include copper, lead, and selenium.

Metals identified in the samples with exceedances of documented federal and state regulatory benchmarks include arsenic and manganese. The most elevated metal concentrations were generally identified in the samples collected from the perched aquifer.

The arsenic federal Maximum Contaminant Level (MCL) of 10 µg/L was exceeded by 1 of the 2 samples with a concentration of 21 µg/L. The manganese California Secondary MCL (CA 2<sup>nd</sup> MCL) of 50 µg/L was exceeded by both of the samples with a maximum concentration of 393 µg/L. Select analytical results and benchmarks are presented in Figure 6 and Table 4.

#### Volatile Organic Compound (VOC) Results:

(See Figure 6; Table 4)

VOCs identified at concentrations at or above their corresponding SQL in groundwater release samples collected during the investigation include 1,1-DCA; 1,1-DCE; cis-1,2-DCE; PCE; trans-1,2-DCE; TCE; and VC. Additional VOC analytes identified at concentrations below their SQL but above their MDL include 1,1,2-TCA, acetone, and benzene.

VOCs identified in the samples with exceedances of documented federal and state regulatory benchmarks include 1,1-DCA; 1,1-DCE; cis-1,2-DCE; and TCE. The most elevated VOC concentrations were identified in the Exposition aquifer sample collected from Boring DEC-CPT-4.

The 1,1-DCA California MCL (CA MCL) of 5.0 µg/L was exceeded by 1 of the 3 samples with a concentration of 5.7 µg/L. The 1,1-DCE Fed MCL of 7.0 µg/L was exceeded by 1 of the 3 samples with a concentration of 15 µg/L (qualified as estimated – biased high). The cis-1,2-DCE Federal MCL (Fed MCL) of 70 µg/L was exceeded by 1 of the 3 samples with a concentration of 76 µg/L. The TCE Fed MCL of 5.0 µg/L was exceeded by 2 of the 3 samples with a maximum concentration of 1,500 µg/L. Select analytical results and benchmarks are presented in Figure 6 and Table 4.

### **3.2.4 Secondary Objective Groundwater Sampling and Lithological Profiling**

(See Figures 5 & 7; Table 4)

In accordance with the SI's secondary objective (see section 3.2), WESTON collected lithological profiling data and discrete-depth groundwater samples from two on-site and five off-site locations that were advanced using CPT technology. During the investigation, three secondary objective

samples were collected from the perched aquifer and four secondary objective samples were collected from the Exposition aquifer. Boring DEC-CPT-1 was advanced along the northeastern site boundary, approximately 80 ft northeast of the Oil Plant. Boring DEC-CPT-2 was advanced along the northeastern site boundary, approximately 100 ft northeast of the 4905 Former Lease Building. Boring DEC-CPT-3 was advanced south-adjacent of the site near the intersection of East 52<sup>nd</sup> Place and Alamo Avenue. Boring DEC-CPT-6 was advanced along the north side of Slauson Avenue, approximately 0.20 mile southwest of the site. Boring DEC-CPT-7 was advanced along the north side of Slauson Avenue, approximately 0.35 mile west-southwest of the site. Boring DEC-CPT-9 was advanced along the north side of Slauson Avenue, approximately 0.65 mile west of the site. Boring DEC-CPT-10 was advanced along the north side of Slauson Avenue, approximately 0.85 mile west of the site. Secondary objective sample locations are presented in Figure 5.

#### Metal Results:

(See Figure 7; Table 4)

Metals identified at concentrations at or above their corresponding SQL in secondary objective groundwater samples collected during the investigation include antimony, arsenic, barium, chromium, cobalt, copper, lead, manganese, nickel, vanadium, and zinc. The only additional metal analyte identified at a concentration below its SQL but above its MDL was selenium. The only metal analyte identified in the samples with an exceedance of a documented federal and/or state regulatory benchmark was manganese. The manganese CA 2<sup>nd</sup> MCL of 50 µg/L was exceeded by all 7 of the samples with a maximum concentration of 696 µg/L. Select analytical results and benchmarks are presented in Figure 7 and Table 4.

#### Volatile Organic Compound (VOC) Results:

(See Figure 7; Table 4)

VOCs identified at concentrations at or above their corresponding SQL in secondary objective groundwater samples collected during the investigation include 1,1,2-TCA; 1,1-DCA; 1,1-DCE; 1,2-DCA; benzene; cis-1,2-DCE; dichlorodifluoromethane (i.e., Freon-12); PCE; toluene; trans-1,2-DCE; TCE; and VC. Additional VOC analytes identified at concentrations below their SQL but above their MDL include 1,3-dichlorobenzene, carbon disulfide, and methyl tert-butyl ether (MTBE).

VOCs identified in the samples with exceedances of documented federal and state regulatory benchmarks include 1,1,2-TCA; 1,2-DCA; cis-1,2-DCE; PCE; TCE; and VC. The most elevated VOC concentrations were identified in the Exposition aquifer samples collected from the northeastern site boundary, most notably at Boring DEC-CPT-1, which exhibited a TCE concentration of 13,000 µg/L.

The 1,1,2-TCA Fed MCL of 5.0 µg/L was exceeded by 1 of the 7 samples with a concentration of 5.0 µg/L. The 1,2-DCA Fed MCL of 5.0 µg/L was exceeded by 1 of the 7 samples with a concentration of 18 µg/L. The cis-1,2-DCE Fed MCL of 70 µg/L was exceeded by 1 of the 7 samples with a concentration of 130 µg/L. The PCE Fed MCL of 5.0 µg/L was exceeded by 1 of the 7 samples with a concentration of 7.0 µg/L. The TCE Fed MCL of 5.0 µg/L was exceeded by 3 of the 7 samples with a maximum concentration of 13,000 µg/L. The VC Fed MCL of 2.0 µg/L

was exceeded by 1 of the 7 samples with a concentration of 2.9 µg/L. Select analytical results and benchmarks are presented in Figure 7 and Table 4.

### ***3.2.5 Deviations from the SAP***

Deviations from the February 2016 Dunn Edwards SAP (Appendix F) occurred during the field work. The significant deviations approved in the field by the EPA Site Assessment Manager include:

- Only nine of the 10 proposed CPT borings were advanced during the investigation. CPT Boring DEC-CPT-5 was not advanced due to subsurface utility conflicts and logistical constraints.
- A groundwater release sample from the perched aquifer was not collected at direct push borings DEC-DP-1, DEC-DP-2, DEC-DP-4, and DEC-DP-6 because a water-bearing unit had not been identified within the proposed sampling interval or insufficient water was available for sampling.
- A groundwater release sample from the perched aquifer was not collected at CPT borings DEC-CPT-1, DEC-CPT-2, DEC-CPT-6, DEC-CPT-8, and DEC-CPT-10 because insufficient water was available within the set screening interval for sampling.
- A groundwater release sample from the perched aquifer was not collected at CPT Boring DEC-CPT-3 because an attempt was made to reach a greater depth for sampling by advancing the sampling push in the same hole as the CPT push. This methodology allows for only a single screening interval to be set, which was chosen to be at the deepest attainable depth.
- A groundwater release sample from the Exposition aquifer was not collected at CPT borings DEC-CPT-7, DEC-CPT-8, DEC-CPT-9 because insufficient water was available within the set screening interval for sampling, which in some cases was not set within a productive water-bearing zone due to early refusal.
- All groundwater samples collected from the Exposition aquifer were collected at shallower depths, which ranged from 90 to 116 ft bgs, than proposed in the SAP (i.e., 120 to 145 ft bgs).
- The groundwater release sample collected from Boring DEC-DP-3 was submitted for VOC analysis only due to insufficient water for metal analysis.
- Soil matrix samples were not collected from Boring DEC-CPT-6 due to scheduling and logistical constraints.

- CPT Borings DEC-CPT-1 and DEC-CPT-2 were designated in the SAP as Exposition aquifer background (i.e., upgradient) locations. However, since an on-site hazardous substance source was not identified during the investigation, it was deemed unnecessary for HRS purposes to assign aquifer background samples. The samples collected from these locations were redesignated as secondary objective samples.
- “Special Designation” samples (e.g., Laboratory Quality Control [QC], duplicates, blanks) were reassigned in the field based on actual number and location of collected samples. Final designations are presented in the Sample Nos. – CLP Nos. Correlation Tables (Appendix G)



## 4.0 HAZARD RANKING SYSTEM FACTORS

### 4.1 Sources of Contamination

(See Figure 6; Table 3)

For HRS purposes, a source is defined as an area where a hazardous substance has been deposited, stored, disposed, or placed, plus those soils that have become contaminated from migration of a hazardous substance.

Based on the results of the 2016 SI investigation and a review of available historical operational information, no significant hazardous substances sources were identified at the Dunn Edwards site.

### 4.2 Groundwater Pathway

In determining a score for the groundwater migration pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to groundwater; 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, mobility, and quantity); and 3) the people (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on the number of people who regularly obtain their drinking water from wells that are located within 4 miles of the site. The HRS emphasizes drinking water usage over other uses of groundwater (e.g., food crop irrigation and livestock watering), because, as a screening tool, it is designed to give the greatest weight to the most direct and extensively studied exposure routes.

#### 4.2.1 Hydrogeological Setting

(See Table 5)

The site lies within the Central Subbasin in the Coastal Plain of the Los Angeles Groundwater Basin. The Central Subbasin is generally bound to the north by the folded, uplifted, and eroded Tertiary basement rocks of the La Brea High surface divide; to the northeast and east by the less permeable Tertiary rocks of the Elysian, Repetto, Merced, and Puente Hills; to the southeast by the Coyote Creek flood control channel (approximate Los Angeles County/Orange County boundary); and to the southwest by the Newport Inglewood Uplift, a regional anticline associated with the Newport Inglewood fault system. Geologic units typically found beneath the subbasin include Holocene-age alluvium, the upper Pleistocene Lakewood Formation, and the lower Pleistocene San Pedro Formation. The Los Angeles and San Gabriel rivers pass across the surface of the subbasin, primarily by way of engineered concrete channels, on their way to the Pacific Ocean. The average net annual precipitation in the subbasin is approximately 12 inches (DWR, 1961; DWR, 2004a).

The Central Subbasin has historically been divided into four areas: the Los Angeles Forebay at the northwest, the Montebello Forebay at the north, the Whittier Area at the northeast, and the Central Basin Pressure Area at the central and southwest. However, these areal distinctions are appropriate for geographical purposes only and do not accurately represent hydrogeologic conditions within the areas. The hydrogeologic forebays, which are generally characterized by unconfined and relatively interconnected aquifer systems, are limited to small regions within the greater Forebay areas. The Montebello Forebay, as well as the Los Angeles Forebay to a lesser degree, serve as the

primary groundwater recharge areas for both shallow and deep aquifers across the entirety of the subbasin. The Central Basin Pressure Area is generally characterized by confined aquifer systems separated by relatively impermeable clay layers, although semipermeable zones within these layers allow aquifers to be interconnected in some areas. These semipermeable zones gradually decrease in frequency and magnitude with increasing distance from the forebays (DWR, 1961; DWR, 2004a).

The site is located within the northern portion of the Central Basin Pressure Area geographical area, with the Los Angeles Forebay to the northwest and the Montebello Forebay to the northeast. Groundwater beneath the site is typically found within the coarser-grained sediments of the upper Pleistocene Lakewood Formation (Exposition and Gage aquifers), and the lower Pleistocene San Pedro Formation (Jefferson, Lynwood, Silverado, and Sunnyside aquifers). The estimated elevations and depths of the aquifers underlying the site are presented in Table 5. Irregular patches of a perched, or semiperched, aquifer are also present within the Holocene alluvium throughout much of the subbasin. Although significant amounts of water can be found within these perched water-bearing zones, they are often discontinuous over relatively short distances and have historically had only minimal economic benefit. Thus, the perched aquifer does not meet the criteria of an “aquifer” for HRS purposes. These perched zones are typically found between approximately 25 and 45 ft bgs (DWR, 1961; DWR, 2004a).

For the purposes of this SI, the Exposition aquifer beneath the site is defined as being between 80 and 145 ft bgs; however, the base of this aquifer is considered approximate because no information was found regarding site-specific lithology below approximately 135 ft bgs. Water-bearing units identified at shallower depths are defined as being associated with one or more perched (or semiperched) aquifers. These designations were assigned primarily based on CPT lithological profile reports that were developed during the completion of the SI investigation (Appendix E).

Throughout much of the subbasin, the Pleistocene-age aquifers are under confined conditions due to the presence of fine-grained, low-permeability interbedded sediments. Although these fine-grained sediments, or aquicludes, generally restrict the downward migration of groundwater from overlying aquifers, semipermeable zones within the aquicludes allow aquifers to be interconnected in some areas. In addition, hydrogeologic modeling of multi-aquifer systems similar to those found in the Central Basin Pressure Area, indicates that groundwater wells screened across multiple aquifers (or wells with improperly constructed annular seals that cross multiple aquifers) can act as a direct pathway for the migration of significant volumes of shallow groundwater into deep confined aquifers when vertical hydraulic head variations create a downward hydraulic gradient. The process of this downward migration is increased in areas where the deeper aquifers have periods of high-volume pumping such as seasonal demand. Furthermore, additional studies have shown that liquids that are denser than water (i.e., dense non-aqueous phase liquids such as TCE and PCE) can migrate downward through a multi-aquifer well even when vertical hydraulic head variations create an upward hydraulic gradient. As of the end of the 2012-2013 fiscal year, there were 537 known extraction wells (306 active and 231 inactive) within the subbasin (AwwaRF, 2006; DWR, 1961; DWR, 2013; Johnson et al., 2011).

The State of California, Department of Water Resources' Bulletin No. 104 (*Planned Utilization of the Ground Water Basins of the Coastal Plain of Los Angeles County*) – Appendix A presents “idealized” geologic cross-sections transecting the Central Subbasin. These cross-sections indicate apparent areas of merged aquifers near the site, including approximately 1.1 miles north-northeast (Exposition-Gage) and approximately 1.6 miles north-northeast (Lynwood-Silverado). Aquifer interconnection within 2 miles of the site has been documented between the Exposition and Gage and between the Lynwood and Silverado. Aquifer interconnections within 2 miles of the site have been established neither between the Gage through Lynwood nor the Silverado and Sunnyside (DWR, 1961).

The regional groundwater flow direction within the subbasin, which was calculated using data from wells screened within the upper San Pedro Formation (Lynwood and Silverado aquifers), is generally to the southwest with local and temporal variations from approximately west-southwest to southeast. Based upon data collected between 2007 and 2016, flow within these deeper aquifers near the site trended towards the west-southwest with temporal variations from west to south-southwest (WRD, 2017).

The groundwater flow direction within the perched aquifer at the site is not known. Because of the highly irregular and discontinuous nature of these perched water-bearing zones, the flow direction is estimated to be highly variable and the calculation of a meaningful flow direction would likely require a separate and specialized investigation.

The groundwater flow direction within the Exposition aquifer at the site is estimated to be towards the southwest. This estimated flow direction is primarily based on monitoring well depth-to-water measurements collected from wells screened between approximately 80 and 90 ft bgs at the nearby Pemaco Superfund Site (EPA, 2015b).

During the SI investigation, the subsurface geology at the site was logged to a depth of 37 ft bgs, the base of continuous coring. Subsurface materials primarily consisted of light- to medium-brown fine sands and silty sands with interbedded lenses (typically less than 2 ft) of medium- to dark-brown clays and clayey silts. The lithological identifications are described in the sample log book (Appendix I). Additionally, during the investigation, CPT technology was used to estimate the subsurface lithology to a total depth of approximately 135 ft bgs. The interpreted Soil Behavior Type generated from the CPT generally indicated sand units from 5 to 20 ft bgs, 25 to 30 ft bgs, 52 to 56 ft bgs, 65 to 70 ft bgs, 85 to 95 ft bgs, 105 to 110 ft bgs, 125 to 130 ft bgs, and 133 to 135 (total depth) ft bgs. Between these sand units, the soils were generally composed of silts and clays with thin (i.e., less than 2 ft) interbedded lens of coarser-grained materials. The CPT Lithological Profile Reports are presented in Appendix E.

#### **4.2.2 Groundwater Targets**

(See Table 6)

The nearest HRS-eligible drinking water well to the site is Well 07 (i.e., Warehouse #7 Well), which is located approximately 370 ft to the northwest of the site. This well is an active public supply well operated by the Maywood Mutual Water Company #3 (MMWC3) that was constructed in 2004. Routine water quality sampling of this well has consistently reported elevated

concentrations of TCE including a concentration of 3.4 µg/L during the most recently reported event in January 2017. The maximum TCE concentration of 5.6 µg/L was reported in October 2011. Elevated concentrations of arsenic, chromium, and PCE have not been identified in Well 07. Well 07 is a multi-aquifer well with a sole screening interval that correlates to the estimated depths of the Jefferson through Silverado aquifers (DWR, 1961; DWR, 2004b; RWQCB, 2017a; Weston, 2016; Appendix C-2)

MMWC3 Well 03 (i.e., 57<sup>th</sup> Street Well 3) was a public supply well located approximately 400 ft northwest of the site that was removed from service in approximately 2000 primarily due to elevated concentrations of iron and manganese; the well was subsequently destroyed in July 2004. Elevated concentrations of arsenic, chromium, PCE, and TCE were not identified in Well 03. Well 03 was a multi-aquifer well that reportedly had one or more screening intervals that correlated to the estimated depths of the Silverado through Sunnyside aquifers (DWR, 1961; RWQCB, 2017a; Weston, 2016; Appendix C-2).

MMWC3 Well 04 (i.e., District #4 Well) is an active public supply well located approximately 0.48 mile southeast of the site. The maximum TCE concentration reported in this well was 0.82 µg/L, which was identified in April 2012. Elevated concentrations of arsenic, chromium, and PCE have not been identified in Well 04. Well 04 is a single aquifer well with a sole screening interval that correlates to the estimated depths of the Silverado aquifer (DWR, 1961; DWR, 1977; RWQCB, 2017a; Weston, 2016; Appendix C-2).

MMWC3 Prospect Well 01 was a public supply well located approximately 0.7 mile southwest of the site, which was destroyed in November 2012 due to a structural collapse that occurred while attempting to clean and increase well production. Elevated TCE concentrations had been consistently identified in this well since at least 1997. The maximum TCE concentration reported in this well was 7.3 µg/L, which was identified in August 2011. Elevated concentrations of arsenic, chromium, and PCE were not identified in Prospect Well 01. Prospect Well 01 was a multi-aquifer well that reportedly had one or more screening intervals that correlated to the estimated depths of the Jefferson through Sunnyside aquifers (DWR, 1961; RWQCB, 2017a; Weston, 2016; Appendix C-2).

The Fed MCL for arsenic is 10 µg/L, for chromium is 100 µg/L, for PCE is 5.0 µg/L, and for TCE is 5.0 µg/L.

There are 62 known active drinking water wells, 8 known maintained-standby wells, and 30 known inactive (i.e., inactive, destroyed, or abandoned) wells located within the target distance limit (TDL) (i.e., 4 miles of established on-site sources). Water purveyors known to operate wells within the TDL include Maywood MWC No. 3, Maywood MWC No. 2, Maywood MWC No. 1, CalWater Service – East Los Angeles (ELA), City of Vernon, Golden State Water Company (GSWC) - Bell, Bell Gardens, Tract 180 Mutual Water Company (MWC), Tract 349 MWC, City of Huntington Park, City of Commerce, City of Bell Gardens, City of South Gate, City of Downey, Walnut Park MWC, Rancho Los Amigos Hospital, GSWC – Florence/Graham. Additional service information for these purveyors is presented in Table 6 (Weston, 2016).

### 4.2.3 Groundwater Pathway Conclusion

(See Figures 5 through 7; Tables 4 through 6)

A release of hazardous substances from the site to groundwater has not been established. For HRS purposes, a release to groundwater is established when a hazardous substance is detected in a hydraulically downgradient well at a concentration significantly above background levels, and some portion of the release is attributable to the site. A hazardous substance is considered to be present at a concentration significantly above background levels when one of the following two criteria is met: (1) the hazardous substance is detected in the contaminated (i.e., release) sample, when not detected in the background samples or (2) the hazardous substance is detected in the release sample at a concentration equal to or greater than three times the maximum background level, when detected in the background samples.

Release samples collected during the 2016 SI sampling event from within the perched aquifer exhibited concentrations of arsenic and TCE that exceeded the federal MCL. However, since an on-site hazardous substance source has not been documented, since the hydraulic gradient of the perched aquifer beneath the site has not been adequately defined, and since the perched aquifer does not meet the criteria of an “aquifer” for HRS purposes, a release to the perched aquifer cannot be established.

Release samples collected during the 2016 SI sampling event from within the Exposition aquifer exhibited concentrations of TCE that substantially exceeded the federal MCL, concentrations of 1,1,2-TCA; 1,1-DCA; 1,2-DCA; cis-1,2-DCE; PCE; and VC that slightly exceeded the federal MCL, and concentrations of arsenic that exceeded its SQL but did not exceed the federal MCL. However, since an on-site hazardous substance source has not been documented, and since it was deemed unnecessary for HRS purposes to assign an Exposition aquifer background sample location (see section 3.2.1), a release to the Exposition aquifer cannot be established.

Although a release from the site to groundwater cannot be established for HRS purposes, the elevated arsenic and TCE concentrations identified in the perched aquifer beneath the site suggest that one or more hazardous substance source areas may exist on, or nearby, to the site, which were not identified during the 2016 SI sampling event. Select analytical results are presented in Figure 6 and Table 4.

The elevated TCE concentrations identified in the Exposition aquifer beneath the site indicate the presence of a relatively large VOC source area, although the specific location of this source area cannot be readily determined based on available information. However, since the most elevated TCE concentrations were identified in samples collected from the upgradient side of the site, and since they were collected from depths of approximately 90 ft bgs, the source area is likely located upgradient of the central portion of the Dunn Edwards site. Select analytical results are presented in Figure 6 and Table 4.

The geologic materials between the ground surface at the site and the top of the deepest identified aquifer, the Sunnyside, are generally characterized by confined aquifer systems, which are composed of relatively permeable sands through gravels and are separated by relatively impermeable clay through silt layers; although semipermeable zones within these layers allow one

or more aquifers to be interconnected in some areas. The estimated elevations and depths of the aquifers underlying the site are presented in Table 6. Sixty-three drinking water wells, which include 62 active wells and 1 standby well, were evaluated within 4 miles of the site. These wells, which are operated by 16 distinct water purveyors, serve an apportioned population of approximately 454,000 (CTE, 2011; CWS, 2016; DWR, 1961; KJC, 2016a; KJC, 2016b; SEI, 2012; SWRCB, 2017; Weston, 2016).

### **4.3 Surface Water Pathway**

To determine the score for the surface water pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to surface water (e.g., streams, rivers, lakes, and oceans); 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, persistence, bioaccumulation potential, and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, impacted by the release. For the targets component of the evaluation, the HRS focuses on drinking water intakes, fisheries, and sensitive environments associated with surface water bodies within 15 miles downstream of the site.

Surface water runoff from the Dunn Edwards site is expected to flow from the paved surfaces on the site to the municipal stormwater system via stormwater drains located along East 52<sup>nd</sup> Place. The nearest surface water body to the site is the Los Angeles River, which is located approximately 550 feet east. The Los Angeles River is highly modified, having been lined with concrete along most of its length by the U.S. Army Corps of Engineers in the 1950s. Flows in the river are dominated by urban runoff and tertiary-treated effluent from several municipal wastewater treatment plants. The river empties into the Pacific Ocean at San Pedro Bay approximately 16 miles downstream of the site. There are no surface water intakes, fisheries, or sensitive environments associated with the Los Angeles River downstream of the site (Google, 2017; RWQCB, 1994; Appendix B).

### **4.4 Soil Exposure and Air Migration Pathways**

In determining the score for the soil exposure pathway, the HRS evaluates: 1) the likelihood that there is surficial contamination associated with the site (e.g., contaminated soil that is not covered by pavement or at least 2 feet of clean soil); 2) the characteristics of the hazardous substances in the surficial contamination (i.e., toxicity and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, exposed to the contamination. For the targets component of the evaluation, the HRS focuses on populations that are regularly and currently present on or within 200 feet of surficial contamination. The four populations that receive the most weight are residents, students, daycare attendees, and terrestrial sensitive environments.

In determining the score for the air migration pathway, the HRS evaluates: 1) the likelihood that sources at a site actually have released, or potentially could release, hazardous substances to ambient outdoor air; 2) the characteristics of the hazardous substances that are available for a release (i.e., toxicity, mobility, and quantity); and 3) the people or sensitive environments (targets) who actually have been, or potentially could be, impacted by the release. For the targets component

of the evaluation, the HRS focuses on regularly occupied residences, schools, and workplaces within 4 miles of the site. Transient populations, such as customers and travelers passing through the area, are not counted.

There are no known residences, schools, daycare facilities, or sensitive environments on site. In addition, the site is fenced and its surface is entirely covered with pavement or buildings. The nearest identified residential property to the site is located approximately 235 ft southwest. A public park is located approximately 50 ft southwest of the northern portion of the site and a preschool is located approximately 120 ft northwest of the site. There are regularly occupied workplaces on site; however, the total number of employees is not known (Google, 2017; Appendix B).

#### **4.5 Hazard Ranking System Summary** (See Figures 5 through 7; Tables 5 through 17)

On-site soil-matrix samples collected during the 2016 SI investigation did not exhibit concentrations of metals or VOCs that exceeded assigned site-specific action levels.

Groundwater release samples collected from the perched aquifer during the investigation exhibited concentrations of metals and VOCs that exceeded documented federal and/or state regulatory levels. Groundwater release samples collected from the Exposition aquifer exhibited concentrations of VOCs that exceeded documented regulatory levels. However, groundwater action levels were not assigned for HRS purposes in either aquifer since an on-site source was not documented (see Section 3.2.1). The Gaspar aquifer is not defined beneath the site.

The following primary HRS factors are associated with the site:

- Hazardous substance sources at the site cannot be documented based on the results of the 2016 SI investigation. Consequently, a release of hazardous substances from the site to groundwater cannot be established.
- Aquifer interconnection within 2 miles of the site has not been adequately documented between the Exposition through Silverado aquifers.
- The geologic materials between the site surface and the top of the Silverado aquifer are generally characterized by approximately 360 ft of relatively permeable sands and gravels and approximately 600 ft of less permeable clays and silts.
- The nearest drinking water well is located less than one-quarter mile from the site.
- Drinking water wells within 4 miles of the site serve an apportioned population of approximately 454,000.

The following secondary HRS factors are associated with the site:

- No drinking water intakes are associated with surface water within 15 miles downstream of the site.
- There are no known residences, schools, daycare centers, or sensitive environments on site. The nearest identified residential property to the site is located approximately 235 ft southwest.
- There are regularly occupied workplaces on site; however, the total number of employees is not known.
- The site is fenced and generally inaccessible to the public.
- The surface of the site is entirely covered with pavement or buildings.

## **5.0 REMOVAL EVALUATION CONSIDERATIONS**

The National Contingency Plan [40 CFR 300.415 (b) (2)] authorizes EPA to consider emergency response actions at those sites that pose an imminent threat to human health or the environment. For the following reasons, a referral to Region 9's Emergency Response Office does not appear to be necessary (Google, 2017; Appendix B):

- The site is fenced and generally inaccessible to the public.
- The surface of the site is entirely covered with pavement or buildings.



## 6.0 REFERENCES

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*Note: This document is confidential and is included in the confidential information packet.*

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# Tables

**Table 1: Current and Historical On-Site Operators**

Location	Operator	Primary Operation(s)	Date
APN: 6314-022-015	Dunn Edwards Corporation	Lacquer Manufacturing	1955 - 1999
		Corporate Administration	1955 - Present
APN: 6314-021-017	Dunn-Edwards Corporation	Oil-based Paint Manufacturing	1955 - Present
		Plant Administration	~2011 - Present
APN: 6314-021-015; 6314-021-016	Dunn-Edwards Corporation	Water-based Paint Manufacturing	1955 - 2011
APN: 6314-022-011	Colortone Decal Company	Decal Manufacturing	1967 - 1998
	Mass International Industries Corp.	Administration	1998 - 2002
	RDD USA	Garment Manufacturing	1998 - 2002
	Fernandez Custom Furniture, Inc.	Furniture Manufacturing	2003 - 2007
	Dunn-Edwards Corporation	Misc. Equipment Storage	2007 - Present
APN = Assessor Parcel Number		References: Weston, 2015	

**Table 2: Summary of Select On-Site Soil and Groundwater Investigations**

Site Area	Previous Investigation	Soil (µg/kg)		Groundwater (µg/L)	
		Analyte	Maximum Result	Analyte	Maximum Result
Oil Plant Area	1984 Environmental Monitoring Study	None Detected ( <i>Limited Analytical Program</i> )		1,1,1-TCA Benzene DCM PCE TCE	12 10 2.0 7.0 4.0
	1984 Environmental Monitoring Study	None Detected ( <i>Limited Analytical Program</i> )		TCE	33
	1989 Site Assessment Report	EGBE MEK 1-Butanol	“elevated” “elevated” “elevated”	EGBE	“elevated”
	1991 Site Assessment Report	--		2-Propanol EGBE MEK Toluene	160 72,000 150 280
	1998 UST Removal and Confirmation Sampling	MEK PCE Toluene	44 27,000 2,770,000	--	
	2000 Environmental Site Assessment Report	1-Butanol 2-Propanol Cyclohexane Ethyl acetate EGBE Toluene	“elevated” “elevated” “elevated” “elevated” “elevated” “elevated”	CS <sub>2</sub> Toluene	8 63
	2010 Contaminated Soil Removal and Site Closure Report	EGBE <sup>(1)</sup> EGBE <sup>(2)</sup>	“elevated” “non-detect”	--	
	2000-2005 Quarterly Monitoring Reports	--		Acetone CS <sub>2</sub> EGBE MEK Toluene	200 30 39,000 470 63
	2006-2009 Quarterly Monitoring Reports	--		All requested analytes = “non-detect”	
	<u>Definitions:</u> CS <sub>2</sub> = carbon disulfide DCM = methylene chloride EGBE = ethylene glycol monobutyl ether MEK = methyl ethyl ketone PCE = tetrachloroethylene TCA = trichloroethane TCE = trichloroethylene UST = underground storage tank µg/L = micrograms per liter -- = media not sampled “elevated” = specific results unavailable “non-detect” = analyte not detected above laboratory reporting limit				
<u>Footnotes:</u> 1 = Pre-remediation 2 = Post-remediation					
<u>References:</u> AECOM, 2017; JHK, 1985; SCEI, 1991; SCEI, 2000; SCEI, 2005; SCEI, 2009; SCEI, 2010; Weston, 2015					

**Table 3: Source Sampling Results for Select Metals**

Sample Location	Sample Depth (ft bgs)	Arsenic	Barium	Chromium	Cobalt	Copper	Lead	Manganese	Nickel	Vanadium	Zinc
Benchmarks and Action Levels											
Residential RSL		0.68	15,000	--	23	3,100	400	1,800	1,500	390	23,000
MCL-based SSL		0.29	82	180,000	--	46	14	--	--	--	--
HRS SEP Benchmark		0.77	10,000	200	20	3,000	--	10,000	1,000	394	20,000
<b>Action Level <sup>(1)</sup></b>		<b>4.9</b>	<b>394</b>	<b>44</b>	<b>26</b>	<b>52</b>	<b>18</b>	<b>983</b>	<b>196</b>	<b>101</b>	<b>198</b>
Background Samples											
DEC-DP-1	2	1.3	107	12	7.6	13	4.5	260	41	30	55
	5 <sup>(2)</sup>	1.1	77	9.6	6.1	9.7	2.2	201	7.7	26	41
	10	1.4	95	12	6.7	13	3.0	264	8.6	28	50
	15	1.2	98	12	6.9	12	2.7	239	8.6	30	49
Source Samples											
DEC-DP-2	2	0.68	49	7.3	3.7	6.1	2.3	133	4.6	18	27
	5	1.0	86	12	6.4	12	2.7	229	8.4	29	45
	10	2.0	114	14	8.3	19	4.5	267	11	35	61
	15	1.2	115	12	7.4	14	2.9	254	9.7	30	53
DEC-DP-3	2	1.4	119	13	7.6	16	4.1	278	11	30	56
	5	0.80	81	9	5.9	10	2.2	206	7.5	24	44
	10	1.6	113	14	7.7	16	3.5	292	11	33	59
	15	1.2	99	11	6.6	13	2.6	228	8.6	28	47
DEC-DP-4	2	1.3	89	12	6.4	14	6.2	211	9.0	30	47
	5	0.83	80	9.6	5.7	9.8	2.2	238	7.5	24	41
	10	2.1	125	14	8.1	16	4.3	490	11	33	56
	15	0.93	85	11	6.4	12	2.4	209	7.9	28	44
DEC-DP-5	2	1.0	92	11	7.2	12	3.1	246	11	27	48
	5 <sup>(2)</sup>	1.1	84	9.7	6.0	11	2.2	220	7.7	27	44
	10	1.5	98	13	7.3	15	3.1	423	10	30	56
	15	1.0	113	13	7.5	14	2.8	274	9.9	31	55
DEC-DP-6	2	1.8	141	16	9.0	20	9.0	307	13	36	70
	5 <sup>(2)</sup>	1.4	107	12	7.7	14	3.9	264	9.9	30	53
	10	1.9	122	13	7.6	15	3.7	341	10	32	53
	15	0.87	85	10	6.3	11	2.5	194	7.5	26	42
<p><b>Notes:</b> Values in Bold exceed Action Level            Values in Shaded cells exceed ten times Action Level            All results reported in milligrams per kilogram (mg/kg)            Samples collected in February and March, 2016            1 = Per the HRS, the action level to establish an on-site source of contaminated soil is "significantly above background," which is defined as three times the background concentration (See section 3.2.1)            2 = Duplicate Sample collected; greater result is presented</p> <p><b>Definitions:</b> MCL = Federal Maximum Contaminant Level            RSL = Regional Screening Level            HRS = Hazard Ranking System            SEP = Soil Exposure Pathway            SSL = Soil Screening level            ft bgs = feet below ground surface</p>											
<p><b>Data Qualifier Definitions:</b>            J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.            J+ = The result is an estimated quantity, but the result may be biased high.            J- = The result is an estimated quantity, but the result may be biased low.            R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample.            U = The analyte was analyzed for, but was not detected above the level of the reported Sample Quantitation Limit (SQL).            UJ = The analyte was analyzed for, but was not detected. The reported SQL is approximate and may be inaccurate or imprecise.</p>											

Complete analytical results are presented in Appendix H



**Table 4: Groundwater Sampling Results for Select Metal and VOC Analytes**

Sample Location	Sample Depth (ft bgs)	Arsenic	Manganese	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethylene	1,2-Dichloroethane	cis-1,2-Dichloroethylene	Tetrachloroethylene	Trichloroethylene	Vinyl Chloride
		As	Mn	1,1,2-TCA	1,1-DCA	1,1-DCE	1,2-DCA	c-1,2-DCE	PCE	TCE	VC
Benchmark:		10	50 <sup>(1)</sup>	5.0	5.0	7.0	5.0	70	5.0	5.0	2.0
Benchmark Source:		Fed MCL	CA 2 <sup>nd</sup> MCL	Fed MCL	CA MCL	Fed MCL	Fed MCL	Fed MCL	Fed MCL	Fed MCL	Fed MCL
Release Sample Locations											
DEC-DP-3	28	NA	NA	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>
DEC-DP-5	28	21	393	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	32	0.50 <sup>U</sup>	32	0.50 <sup>U</sup>
DEC-CPT-4	90	1.0 <sup>U</sup>	266	0.12 <sup>J</sup>	5.7	15 <sup>J+</sup>	0.50 <sup>U</sup>	76	2.7	1,500	1.7
Secondary Objective Sample Locations											
DEC-CPT-1	90	4.7	110	5.0	0.64	4.7	18	130	7.0	13,000	2.9
DEC-CPT-2	90 <sup>(2)</sup>	1.0 <sup>U</sup>	212	0.43 <sup>J</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	39 <sup>J</sup>	1.1	3,400	0.65
DEC-CPT-3	116	1.0 <sup>U</sup>	376	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	1.4	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.43 <sup>J</sup>	0.52
DEC-CPT-6	103	2.1	78	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>
DEC-CPT-7	34	7.2	217	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>
DEC-CPT-9	34	5.0	550	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	19	0.50 <sup>U</sup>	7.4	0.50 <sup>U</sup>
DEC-CPT-10	35	2.1	696	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>	0.10 <sup>J</sup>	0.50 <sup>U</sup>	0.50 <sup>U</sup>
<b>Notes:</b> Values in Bold exceed Benchmark Values in Shaded cells exceed ten times Benchmark All results reported in micrograms per liter (µg/L) Samples collected in February and March, 2016 1 = Manganese exceedances are presented as 10 times reference benchmark 2 = Duplicate Sample collected; greater result is presented						<b>Data Qualifier Definitions:</b> J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample. J+ = The result is an estimated quantity, but the result may be biased high. J- = The result is an estimated quantity, but the result may be biased low. R = The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control (QC) criteria. The analyte may or may not be present in the sample. U = The analyte was analyzed for, but was not detected above the level of the reported Sample Quantitation Limit (SQL). UJ = The analyte was analyzed for, but was not detected. The reported SQL is approximate and may be inaccurate or imprecise.					
<b>Definitions:</b> CA MCL = California Maximum Contaminant Level CA 2 <sup>nd</sup> MCL = California Secondary Maximum Contaminant Level Fed MCL = Federal Maximum Contaminant Level ft bgs = feet below ground surface NA = Not Analyzed						Complete analytical results are presented in Appendix H					

**Table 5: Bulletin 104 Aquifer Elevations near Site**

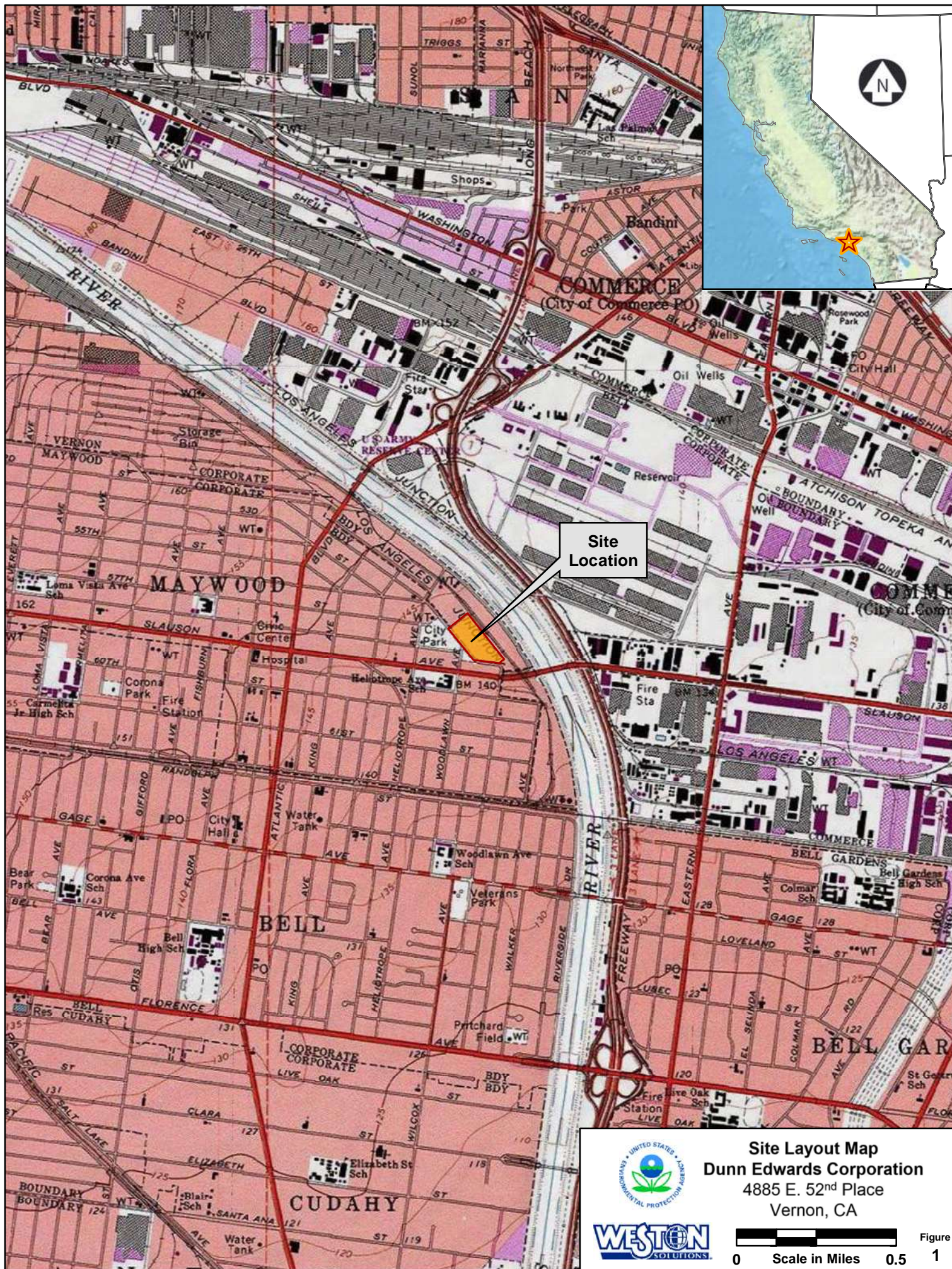
Aquifer	Estimated Elevation (ft amsl)		Estimated Depth (ft bgs)	
	Top	Base	Top	Base
Exposition	40	-5	100	145
Gage	-50	-100	190	240
Jefferson	-230	-275	370	415
Lynwood	-355	-430	495	570
Silverado	-570	-715	710	855
Sunnyside	-820	-1325	960	1465
Definitions: amsl = above mean sea level bgs = below ground surface ft = feet References: DWR, 1961				

**Table 6: Water Purveyors Operating Active Wells Within the Target Distance Limit**

<b>Water Company Name</b>	<b>No. of Wells in System <sup>(1)</sup></b>	<b>Total Population Served</b>	<b>Percent Groundwater</b>	<b>No. of Wells Within 4 Miles <sup>(1)</sup></b>	<b>Direction from site (approx.)</b>
Maywood MWC #3	2	9,500	92%	2	NNW-SE
Maywood MWC #2	2	6,700	80%	2	NNW-NW
Maywood MWC #1	2	3,619	95%	2	W
CalWater Service – ELA	9	150,729	63%	9	NNE-E
City of Vernon	8 <sup>(2)</sup>	45,000	84%	8 <sup>(2)</sup>	NNW
GSWC - Bell, Bell Gardens	5	58,048	97%	5	SW-S-SE
Tract 180 MWC	2	14,000	100%	2	SSW
Tract 349 MWC	2	7,500	99%	2	SSW
City of Huntington Park	5	17,246	72%	5	SW
City of Commerce	2	3,828	100%	2	ESE
City of Bell Gardens	1	11,879	100%	1	SE
City of South Gate	7	96,057	99%	6	SSW
City of Downey	20	112,585	100%	9	SE
Walnut Park MWC	3	16,180	73%	3	WSW
Rancho Los Amigos Hospital	3	8,800	100%	2	SSE
GSWC – Florence/Graham	7	65,182	82%	3	WSW
<b>Footnotes:</b> 1 = Does not include standby wells unless otherwise noted 2 = Includes standby wells <b>References:</b> CTE, 2011; CWS, 2016; KJC, 2016a; KJC, 2016b; SEI, 2012; SWRCB, 2017; Weston, 2016					


# Figures











**Legend**

 Site Boundary

 Parcel Boundary


  
0 Scale in Feet 200


 








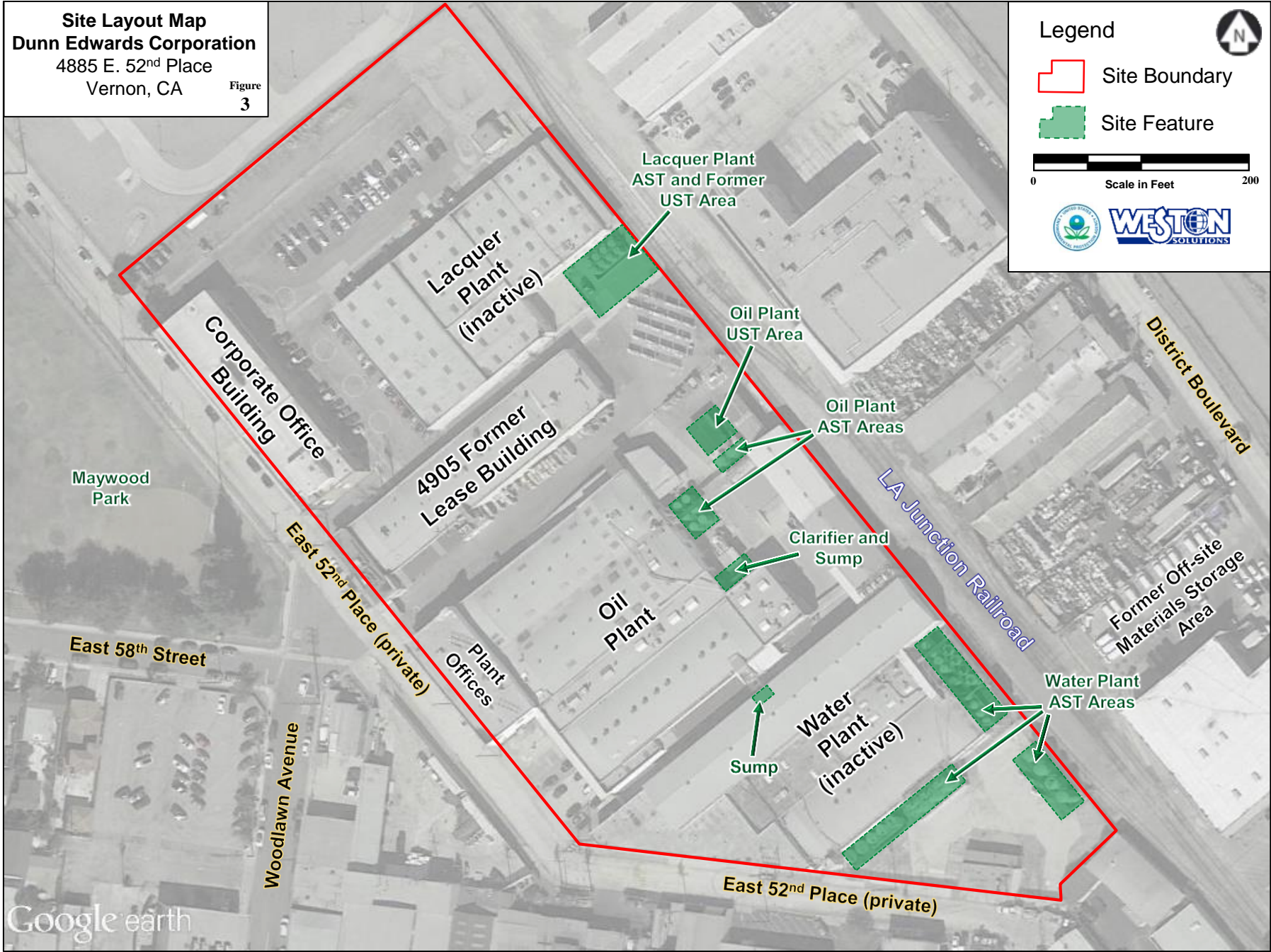
**Legend**

 Site Boundary

 Site Feature

0  200  
Scale in Feet





# Site Inspection Sample Location Map

Dunn Edwards Corporation  
4885 E. 52<sup>nd</sup> Place  
Vernon, CA

Figure  
4

## Legend



Site Boundary



Direct Push Boring – soil only



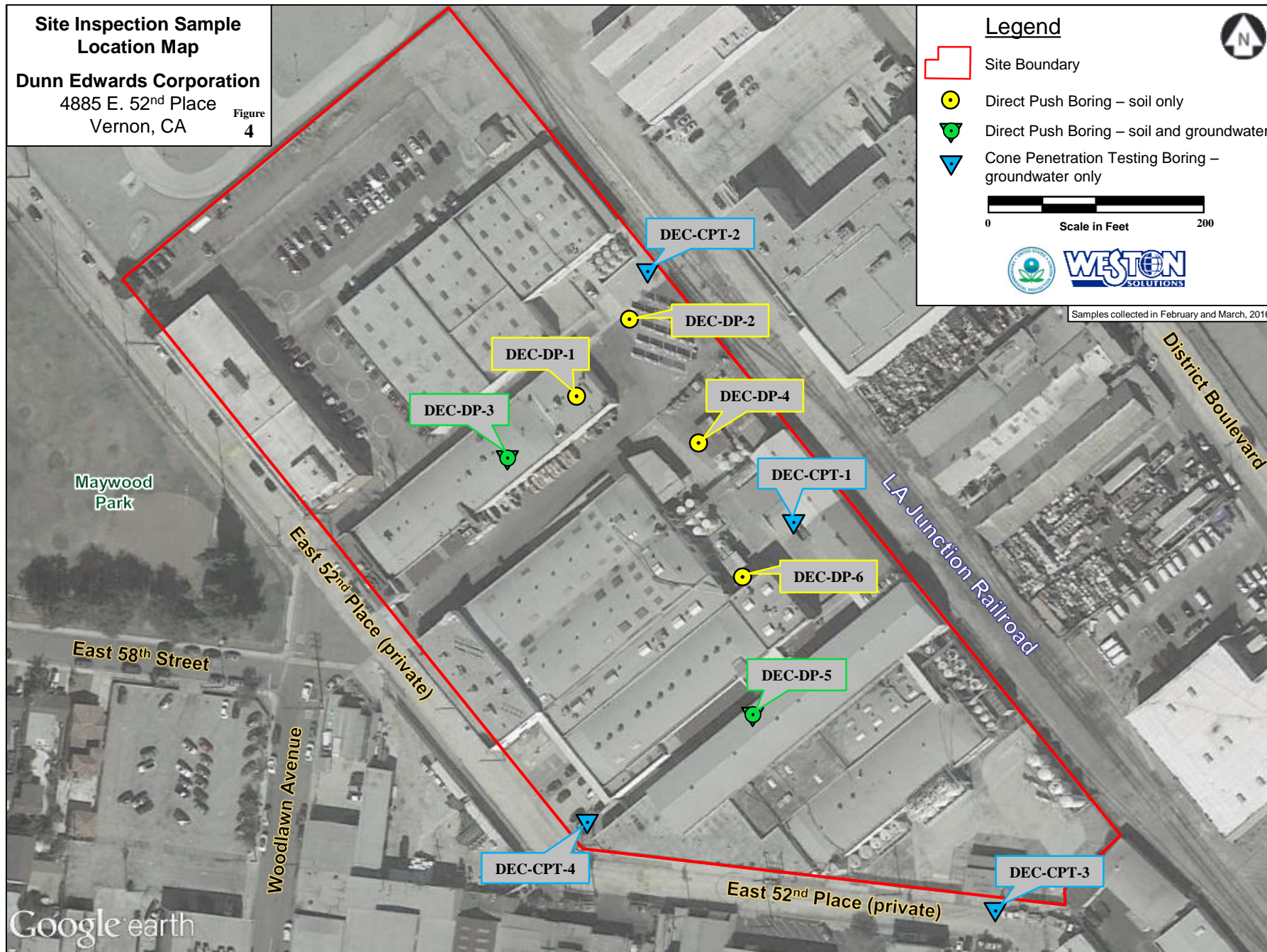
Direct Push Boring – soil and groundwater



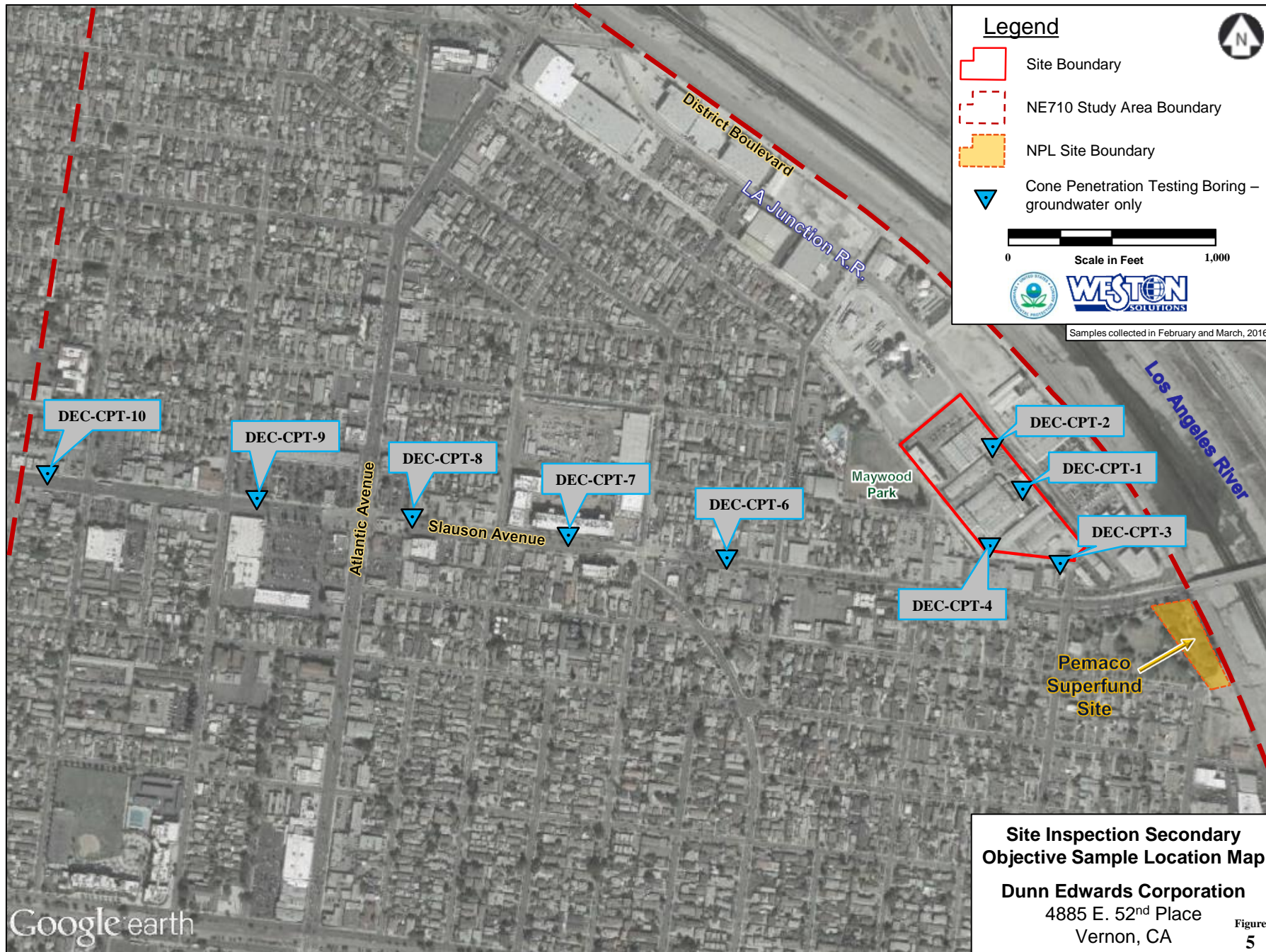
Cone Penetration Testing Boring –  
groundwater only



Samples collected in February and March, 2016









# Site Inspection Sample Location and Select Metal and VOC Results Map

## Dunn Edwards Corporation

4885 E. 52<sup>nd</sup> Place  
Vernon, CA

Figure  
6

### Notes:

- Soil results are in micrograms per kilogram (µg/kg)  
Groundwater results are in micrograms per liter (µg/L)  
-- = no significant exceedances of benchmarks or action levels
- (1) Duplicate Sample collected; greater result is presented
  - (2) Per the HRS, the action level to establish an on-site source of contaminated soil is "significantly above background," which is defined as three times the background concentration (See section 3.2.1)
  - (3) Based on documented federal and state regulatory benchmarks
  - (4) Submitted for VOC analysis only due to poor recovery
  - (5) Manganese exceedances are presented as 10 times reference benchmark

### Legend



Site Boundary



Direct Push Boring – soil only



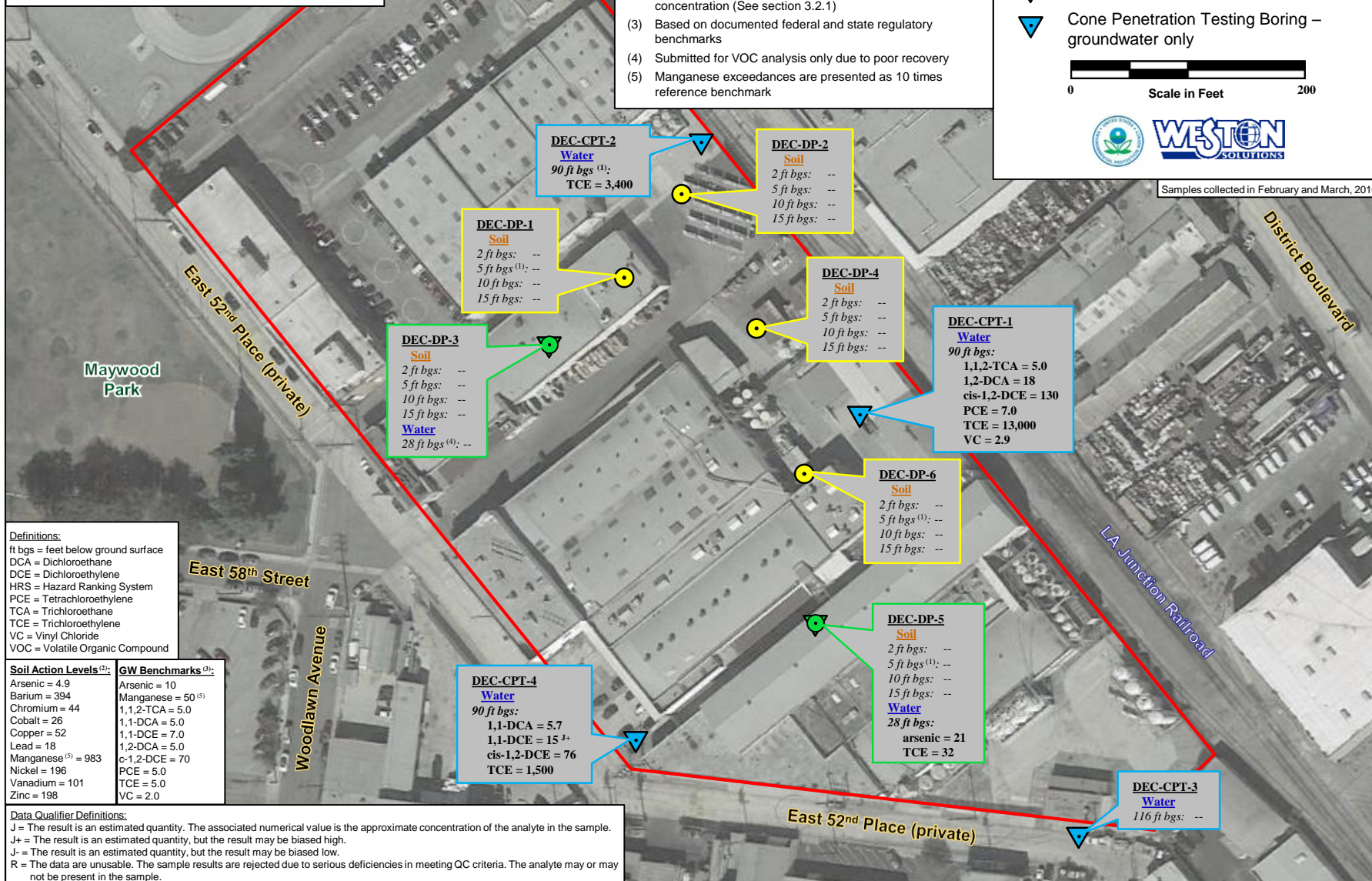
Direct Push Boring – soil and groundwater

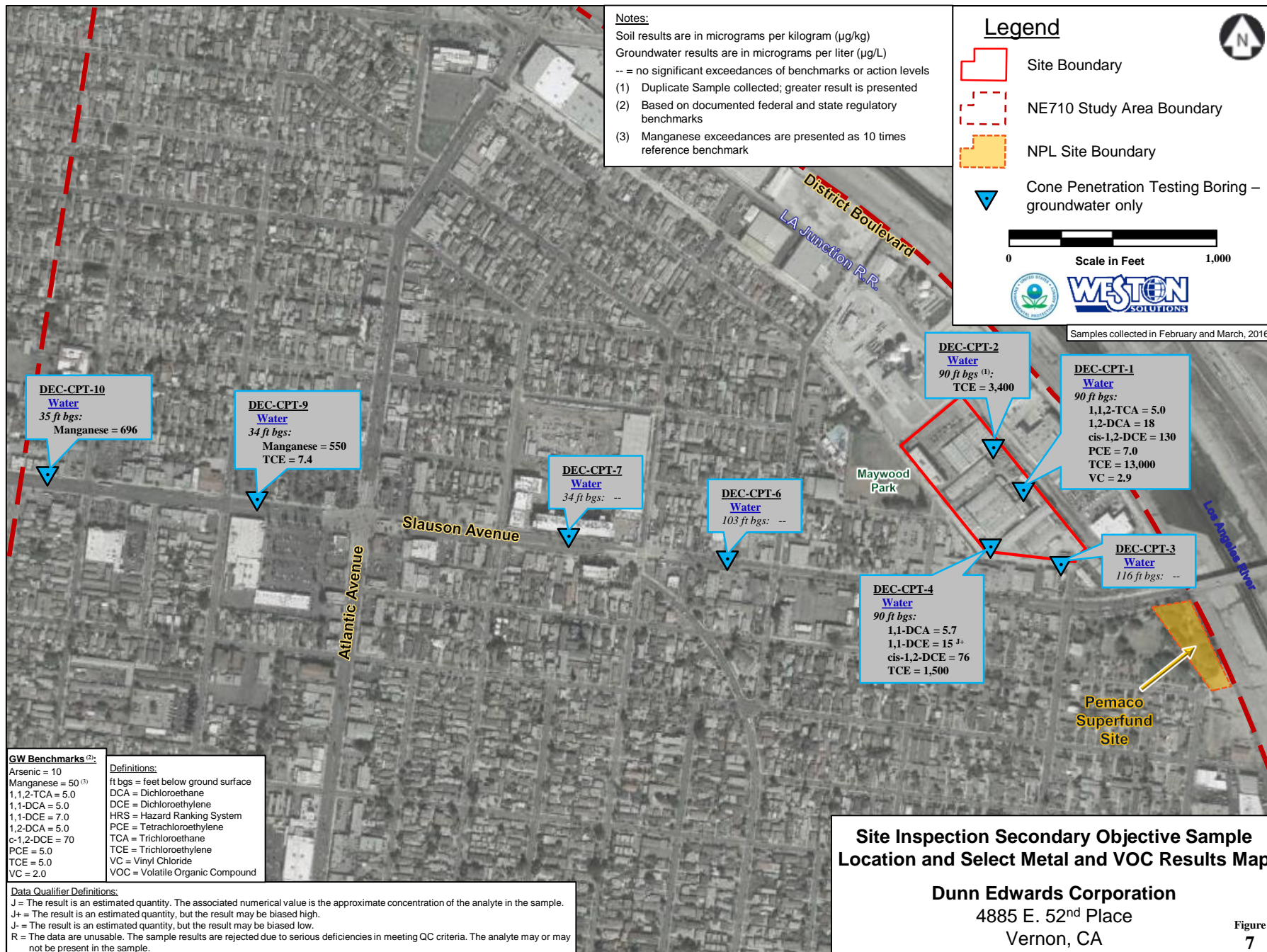


Cone Penetration Testing Boring – groundwater only



Samples collected in February and March, 2016







**Appendices**  
***(attached under separate cover)***